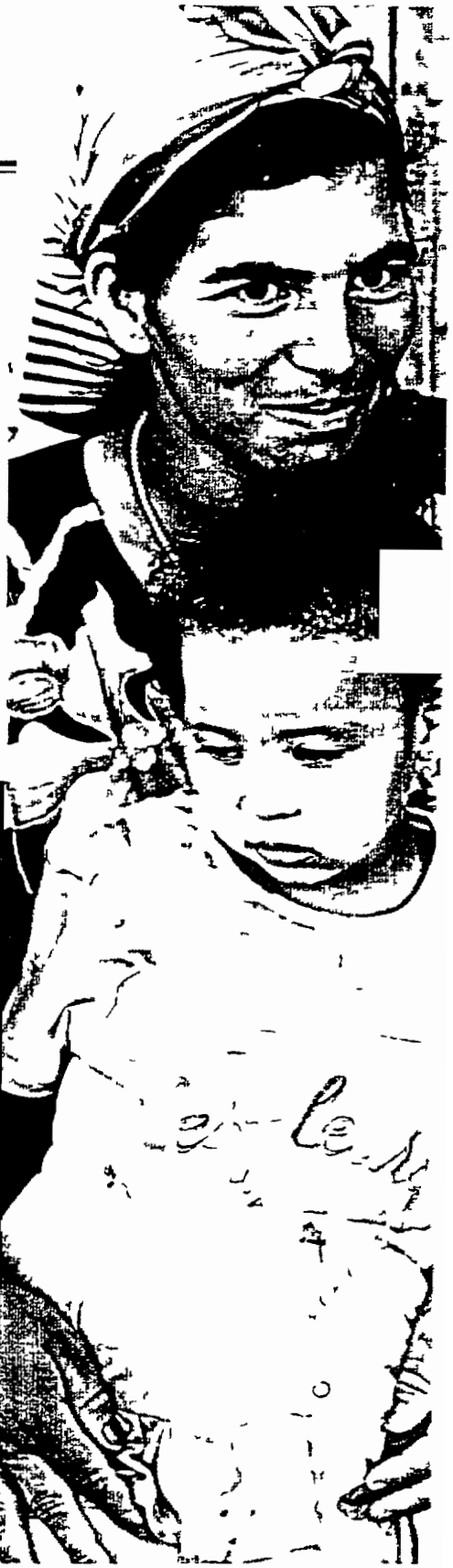
THE DYNAMICS OF THE MOROCCAN FAMILY PLANNING PROGRAM

Key Findings from Evaluation Research 1992-97



Ministry of Public Health,
Kingdom of Morocco, and
The EVALUATION Project/Tulane University

USAID Contract Numbers: DPE-3060-C-00-1054-00 and DPE-0-02-91-00055-00

The EVALUATION Project

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May 1998

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Summary report prepared by Jane T Bertrand, Ph D

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Acronyms

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Technical Acronyms

CS	*Carte Sanitaire* (health infrastructure database)
CYP	Couple-Years of Protection
DHS	Demographic and Health Survey
FP	Family Planning
IEC	Information Education and Communication
IUD	Intra-uterine Device
MCH	Maternal and Child Health
PAPCHILD	Pan Arab Project for Child Development
SAM	Service Availability Module (of the DHS)
SDP	Service Delivery Point
SNIS	Systeme National d'Information Sanitaire (National System of Health Statistics)
SOMARC	Social Marketing Project
VDMS	Systematic Motivation through Household Visits

Organizational Acronyms

DP	Direction de la Population
INAS	Institut National d'Administration Sanitaire (National Institute of Health Administration)
JSI	John Snow Incorporated
MOH	Ministry of Public Health
SEATS	Family Planning Service Expansion and Technical Support
SEIS	Service d'etudes et Information Sanitaire
USAID	United States Agency for International Development

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Acknowledgments

The EVALUATION Project and Tulane University wish to acknowledge both the United States Agency for International Development (USAID) and the Ministry of Health in Morocco (MOH) for the opportunity to collaborate in a series of research and technical assistance activities over the five year period from 1992-1997 This work was carried out under contract #DPE-3060-C-00-1054-00 and DPE-Q-02-91-00055-00 We give special thanks to Dr Krista Stewart, technical advisor to The EVALUATION Project, for her guidance and administrative oversight during this five-year collaboration We also thank Dr Amy Tsui, Director of The EVALUATION Project for her technical direction of The EVALUATION Project

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Much of this work was conducted in close collaboration with John Snow Inc / Morocco We are particularly grateful to our colleagues at JSI for their logistical support, technical guidance and financial input We recognize the contribution of Don Lauro, Ken Olivola, Sereen Thaddeus (Johns Hopkins University/Center for Communications Programs) as well as other JSI staff We are particularly grateful to Mr Taoufik Bakkali for his role as technical liaison with Tulane on evaluation activities

Our warmest thanks go to the women and men of Morocco who willingly gave their time to be interviewed in studies, observed in their place of work, and convened for focus groups for the purposes of this research We sincerely hope that their investment of time and energy will be repaid by improved programs resulting from this portfolio of activities And finally, the authors would like to thank Elisabeth Gleckler MPH for taking the report and with Desk Top Publishing bringing it to this final stage

The ideas presented herein reflect those of the authors, not the sponsoring agency

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Executive Summary

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The purpose of this report is to summarize key findings from the evaluation research on the MCH/FP program in Morocco, conducted under The EVALUATION Project[1] in collaboration with the Morocco Ministry of Public Health and Johns Snow Inc /Morocco from 1992-97 This collaboration served to strengthen technical capacity within the MOH for program evaluation it produced a number of research studies with programmatic implications, and it contributed to developing an 'evaluation culture within the divisions of the MOH responsible for the MCH/FP program

The research studies were designed to better understand the 'black box of service delivery in Morocco and to measure the impact of the FP supply environment on reproductive behavior including contraceptive use The different studies 'map to the conceptual framework that describes the pathways by which FP programs yield results Key findings include the following

- Access Access to contraceptive methods is high in Morocco 98% of women live within 30 km of a health facility offering FP services Whereas the pill is available in almost all government health facilities in Morocco, the IUD is available in about two-thirds of urban and one-third of rural facilities
- Quality of FP Services A pilot study on quality of care in five provinces in 1992 indicated that most facilities had the infrastructure equipment, and supplies necessary to deliver FP services pills and condoms were widely available However several shortcomings included inadequate supplies of Ovrette less than universal availability of the IUD and a dearth of printed IEC materials These results guided subsequent efforts to improve quality
- **Under-utilization of the IUD** Despite a substantial investment by the MOH and USAID/Morocco in the training of service providers in counseling and IUD insertion in the early 1990s, the percent of women of reproductive age using the IUD increased from 3 percent to only 4 percent between 1992 and 1995 A qualitative study revealed several sources of the problem with IUDs provider bias (in favor of the pill), rumors regarding 'getting hooked together, and fear of side effects The study prompted a new cycle of refresher training in regional centers throughout the country

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[1] The EVALUATION Project was a USAID funded project to improve the state of the art for FP program evaluation The Carolina Population Center was the prime contractor with Tulane University and The Futures Group International as its two subcontractors The project ran from October 1991 December 1997

- **Program performance trends from 1992-96** Service statistics have been routinely collected for years However one of the most innovative aspects of the evaluation work in Morocco has been the development of an interactive computerized system that provides program managers with easy access to 20 MCH/FP indicators The system produces tables, multiple graphics, and maps for each indicator over a five year period (from 1992-96), as well as for the different levels (national, regional and provincial) It can also be used to generate a chartbook of results for any indicator, year, and level
- **Contraceptive use** The richness of data on MCH/FP in Morocco provided the opportunity for numerous secondary analyses of DHS data, including the service availability module (SAM) Four of the six studies involving contraceptive use and other reproductive health (RH) behavior utilized the state-of-the-art approach promoted by The EVALUATION Project, that is measuring the effect of FP service environment ('the strength of the program in a given location) on contraceptive use Key findings were as follows
  - **Discontinuation and failure** The percentage of women who discontinued their contraceptive method within the first 12 months varied from 17 percent for the IUD to 39 percent for the pill to 51 percent for traditional methods Reasons for discontinuation varied by method pill users tended to desire another pregnancy, whereas IUD users cited side effects Failure rates (by 12 months) were much lower for the IUD (3 percent) and the pill (6 percent) than for traditional methods (22 percent) Results point to the importance of improved counseling specific to the method selected
  - **Husband's role in contraceptive decision-making** Data from 567 matched couples from the 1992 DHS allowed for a husband/wife comparison of fertility desires The analysis examined three factors that potentially affect a woman s contraceptive use her own fertility desires, her perception of the husband s fertility desires, and the husband's actual fertility desires For women wanting to delay a birth only the first two mattered However when a woman wanted to limit her family size, both her perceptions and her husband s actual fertility desires influenced her behavior Further emphasis on male involvement in FP will help improve husband-wife communication on contraceptive use and avoid false perceptions of spouse s fertility desires
  - **The effects of MCH utilization on subsequent contraceptive practice** In the post-Cairo period integration is strongly promoted as a superior approach to service delivery in developing countries, but to date there has

been limited empirical evidence of its effects This study demonstrated that women who used MCH services were more likely than others in the population to adopt contraception, even after controlling other factors such as education place of residence etc Moreover, this relationship was stronger where the FP service environment was more favorable

- **The role of the FP program in moving women from the "intention to use' to actual use** By studying non-users who "intended to use' in 1992 and their actual contraceptive use as of 1995, it was possible to determine that

  (1) stated intentions are an important predictor of subsequent use and

  (2) a favorable FP supply environment facilitates the contraceptive adoption process The results indicate that the Morocco FP program not only satisfies existing demand but also generates demand

- **The impact of FP programs on reproductive behavior** Two studies attempted to demonstrate the impact of the FP program on contraceptive use (This question seems self-evident to many, the difficulty is in demonstrating program impact independent of the effects of social and economic conditions in a given country) The first analysis used cross-sectional data (the1992 and the1995 DHS and SAM data) to test the relationship of program factors (access/quality), community-level and individual-level characteristics on a series of five reproductive health behaviors (including intentions, contraceptive use and fertility) The results were inconclusive most probably for a series of methodological reasons outlined in the report The second analysis used a more powerful analytic approach based on longitudinal data from the panel study The latter demonstrated the effect of the supply environment on contraceptive use two variables showing significant results were training of nurses and an index of the infrastructure at the closest facility This analysis is of particular interest to social science researchers and the Morocco experience provides important insights into the limitations of the methodology when applied to 'mature" programs

Additional Analyses

- **Reliability of the DHS calendar data** Morocco presented a unique opportunity to test the reliability of the DHS calendar data (on contraceptive history), since it is the only country in the world to have a panel of the same respondents at two overlapping points in time The results indicate a relatively high level of reliability at the aggregate level, though a lower level of consistency at the individual level The generalizability of these findings may be limited, given the

relatively high quality of data from the Morocco DHS and the predominance of a single method (the pill) in the method mix

- **Determinants of maternal health care use** In contrast to relatively high levels of contraceptive prevalence in Morocco, use of prenatal care and assisted delivery is low This study examined the relative importance of individual characteristics of women and supply-environment characteristics in relation to maternal care use The key determinants were education, socio-economic status, and parity of the mother (individual characteristics) Supply environment factors played a smaller role in determining health care use Given the success of outreach in other MCH/FP areas in Morocco (e g , FP, immunizations), consideration should be given to renewed efforts to address the under-utilization of maternal care services
- **Household health care expenditures** This study, based on a special module of the 1995 DHS estimates how much Moroccan households spend on health compared to the level of spending from the government and donors Preliminary results indicate that out-of-pocket expenses are substantial 172 dirhams (almost $20 U S) for urban households and 116 dirhams ($13) for rural household per disease episode Health care spending accounted for over 7 percent (urban) and 5 percent (rural) of total household budget

In addition to the portfolio of evaluation studies, this collaborative effort yielded several important products

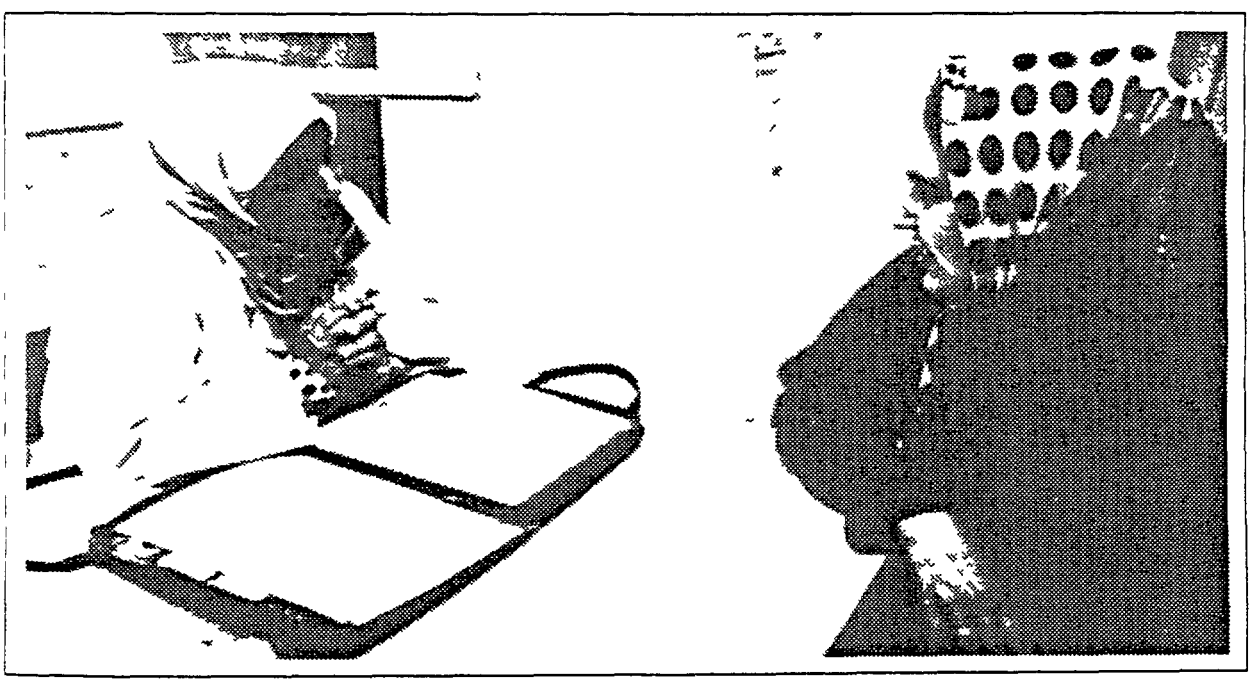
- an interactive data base for monitoring MCH/FP statistics, available for use on personal computers and from the Internet,
- a chartbook of family planning and MCH service statistics 1992-1996,
- a Morocco-adapted Handbook of Indicators for the MCH/FP program

Activities that contributed to strengthening technical capacity in evaluation include workshops at the central and peripheral levels, on-the-job training in all aspects of data collection (including qualitative methods), the Junior Fellow program (whereby two MOH staff members spent a total of ten months in residence at Tulane University on EVALUATION Project activities), and a dozen professional linkages, whereby MOH personnel spent 2-4 weeks at Tulane University to complete specific analyses and other research tasks

Recommended areas for future evaluation research include

- further study of the under-utilization of maternal care services, in light of the high levels of maternal morbidity and mortality in Morocco,
- further development of tools to monitor quality of care, and

- secondary analysis of PAPCHILD data, both to exploit this important resource to the fullest extent for the benefit of the MCH/FP program and to further develop the data analysis skills of MOH counterparts



Quality of care is a major focus for the Ministry of Public Health

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Chapter I: Background

Objectives of this Report and Intended Audience

The purpose of this report is to summarize the key findings from the evaluation research on the MCH/FP[2] program in Morocco conducted under The EVALUATION Project in collaboration with the Morocco Ministry of Public Health (MOH) and John Snow Inc /Morocco from 1992-1997 The report aims

1 to increase understanding of the program itself (access quality, trends in output and outcomes),

2 to identify barriers to use including factors internal and external to the program, in an effort to improve the MCH/FP program

3 to reflect the wide range of research and training activities that contributed to creating an evaluation culture within the MOH

The intended audience for this report includes

- program managers and donor agency staff interested in the substantive findings on how the family planning program works in Morocco and where future improvements are needed
- researchers interested in specific methodologies tested in Morocco (e g using panel data to test the impact of the FP program on contraceptive use)
- members of the international population community interested in a case study on developing an evaluation culture within a MOH

For researchers and others interested in the complete versions of the research papers summarized in this report, a compendium of the papers is available through The EVALUATION Project/Tulane University

The Morocco MCH/FP Program[3]

As was the case with many such programs, the family planning program in Morocco was born from demographic concerns In 1965 the Moroccan Economic and Planning Department issued a report with population projections to the year 1985 It analyzed the economic repercussions of a continued growth rate of 3 2 and demonstrated the tremendous economic gains that would result from a lower growth rate of

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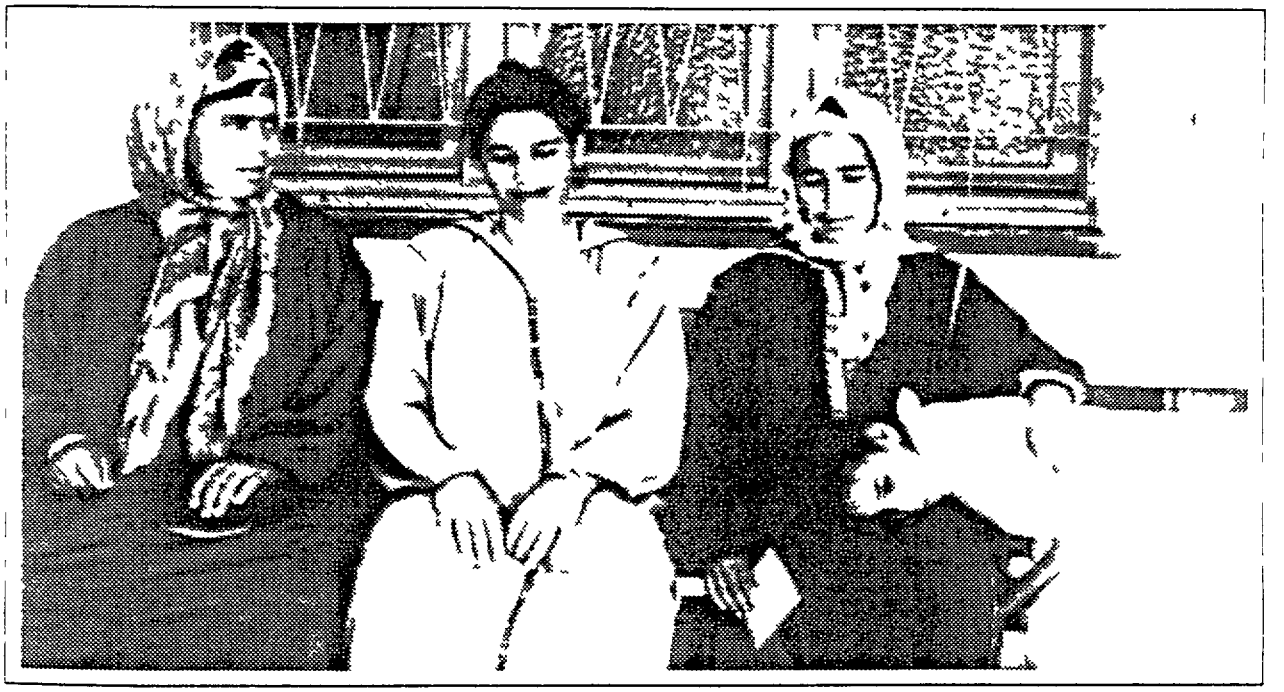
MCH/FP refers to the program known as SMI/PF (Soins Maternal Infantil/Planning Familial)

[3] Much of this section on the background of the Morocco MCH/FP program is drawn from Brown (1995)

2 5 by 1985 Representatives of the World Bank were also warning of population problems and the neighboring country of Tunisia had initiated its own FP program in 1964 (Brown 1968)

During the period 1965-67 a series of Royal decrees and memoranda set the stage for the Moroccan family planning program They recognized the importance of regulated births as part of Morocco s national program of development, acknowledged the implications of unrestricted population growth, created a population policy for Morocco, and declared the purpose of family planning as enabling families to space births to conserve the mother s health

In 1966 Morocco Family Planning was established under the full responsibility of the Ministry of Public Health (MOH) From 1966 to 1971 the MOH worked with bilateral and multi-lateral institutions (Population Council, Ford Foundation Rockefeller Foundation and The International Planned Parenthood Federation [IPPF]) to develop the family planning program From the beginning, family planning was integrated into the existing health infrastructure with the aim of using available resources without duplication assuring sound medical standards, and maintaining the cooperation of the medical profession (Brown, 1968)



Women outside a Ministry of Public Health Clinic

While oral contraceptives and condoms were already available commercially in 1966, they were not distributed through the public health centers The first method introduced through the MOH system was the Lippes loop IUD (Brown,1968) Following initial IUD training of key personnel in Europe, training was conducted in Morocco through demonstration centers and regional seminars By 1968 services were expanded to 110 urban health centers in several Moroccan cities The MOH initially concentrated on establishing services in the cities due to the limited number of trained personnel in rural areas and greater likelihood of receptivity in urban areas Expansion to rural centers was gradual, by 1968 a few rural centers provided family planning in selected provinces

In 1971 Morocco negotiated its first program with USAID In the same year the Moroccan Family Planning Association (IPPF affiliate) was created In 1972 the Population Division and the Central Service of Family Planning was established in the MOH (Zarouf and Oucherif, 1992) However, organizational problems and political sensitivity hampered the implementation of the government program until the late 1970s Nevertheless, since the late 1970s, the program has expanded rapidly

The year 1977 marked a turning point in the government family planning program with the initiation of the program of Systematic Motivation through Household Visits (VDMS), which was first pilot-tested in Marrakech province The USAID-funded VDMS project was the first major MOH program to actively recruit family planning acceptors Up until this time it was necessary for potential users to seek contraceptives from a physician (Adamchak, 1990)

Following the success of the Marrakech experience, the VDMS program was implemented nationally (1981-1990) as a permanent feature of the national health system The types of services offered were expanded to include monitoring of pregnant and lactating women, surveillance of malnourished children, distribution of weaning flour and oral rehydration salts when needed, referral of nonvaccinated children to dispensaries, and collection of blood smears for malaria screening

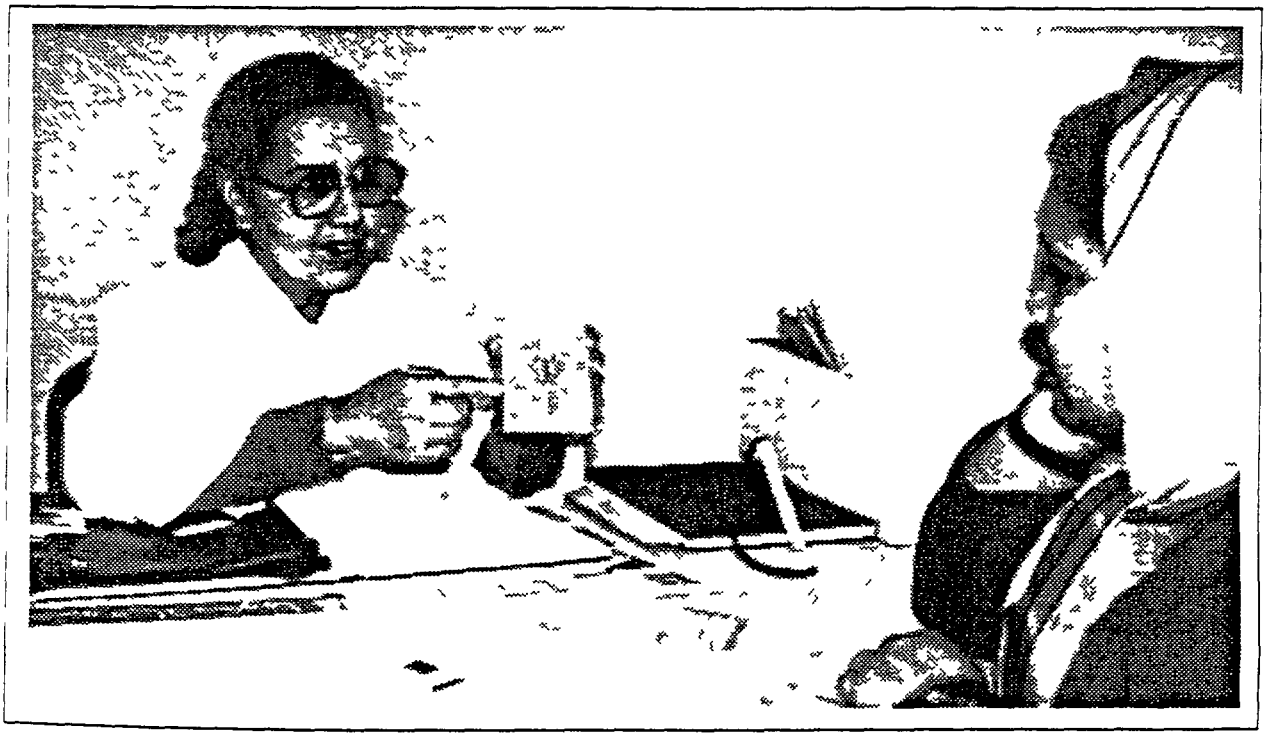
The use of the existing health structure including health personnel, administrative mechanisms, and supervisory procedures, was key to implementing VDMS nationally In recent years VDMS has been discontinued in urban areas, given that there are many alternative sources of contraceptive supply, such as public health centers, pharmacies, and private doctors

Training of health personnel in the provision of long-term contraceptive methods was formally organized in 1982 with the establishment of the National Training Center in Human Reproduction, specializing in tubal ligations In 1991 MOH initiated a decentralized approach to training of medical and paramedical personnel in insertion

and removal of the IUD, through regional training centers (Zarouf and Oucherif 1992) In 1992 a new statement on conditions for the performance of tubal ligations was issued clearly defining the circumstances under which tubal ligations could be performed The statement outlined a more inclusive definition of women who could receive the procedure and emphasized the informed consent of both husband and wife (Bowen 1994)

In 1988 the country launched a social marketing project with assistance from SOMARC, this program promoted the condom Protex ' through pharmacies and other commercial outlets The private sector has become an increasingly important source of contraceptive methods in Morocco, the percent of users obtaining their method from the private sector increased from 21 percent in 1987 to 37 percent in 1992 and in 1995

In 1993 NORPLANT® was introduced in four regional centers (Rabat, Casablanca, Marrakech, and Agadir) In the same year, the first Magreb Conference on Population and Family Planning was held in Rabat This conference was notable for its Royal attendance Although the King himself was not there, one of his daughters represented the Royal family The Royal presence at the conference clearly signaled



Women who use maternal child health services are more likely to also practice contraception

the King's support of family planning (Zarouf and Oucherif, 1992) This was followed in 1994 by the introduction of the injectable, initially on a pilot basis in 12 health facilities Currently the injectable is available in government facilities throughout the country

In reviewing the progress made in the 1980s, Ayad et al (1991) identified the following challenges (still relevant today) to increasing contraceptive use and reducing fertility reducing differentials among geographic areas, both urban-rural and regional reaching women with limited or no education, particularly as they represent such a large proportion of the population of women of reproductive age, helping couples achieve their reproductive goals by providing better method mix for spacers and limiters, and overcoming barriers to use

Although family planning is fully integrated with MCH Services in Morocco, this report (reflecting the mandate of The EVALUATION Project) focuses primarily on family planning

Collaboration with The EVALUATION Project

Morocco was one of the first countries to become a "focus country' under The EVALUATION Project The idea behind the focus country strategy was to concentrate substantial technical, financial and human resources for the purposes of upgrading the quantity and quality of family planning program evaluation in the given country A range of countries was selected, reflecting both those with relatively strong FP programs and technical counterparts (e g , Morocco) as well as countries with nascent family planning programs and limited evaluation capability (e g , Tanzania)

The collaboration began in 1992, when USAID/Morocco contacted The EVALUATION Project for assistance in developing a monitoring and evaluation plan at the mission level At the same time, JSI/Morocco (under the SEATS project) and the Ministry of Health were interested in developing a technical partnership for monitoring quality of care in the MCH/FP program Thus began a partnership between the MOH, JSI/Morocco, and The EVALUATION Project that spanned the five years from 1992-1997 It built on the strong data collection skills already available through the Ministry of Health, and it allowed further institution-building in the area of data analysis and qualitative research

The specific objectives of the collaboration with the MOH were as follows

- to strengthen technical capacity with the MOH for program evaluation,

- to conduct evaluation research for the purposes of improving the MCH/FP program, and
- to develop an evaluation culture within the MOH regarding MCH/FP

This collaboration involved three divisions of the Ministry of Health

- the Direction de la Population (DP, the Direction of Population),
- the Service d'etudes et Information Sanitaire (SEIS, the Office of Research and Health Statistics), and
- the Institut National d'Administration Sanitaire (INAS, the National Institute of Health Administration)

The activities completed with each of these groups are outlined in the appendices to the report In addition the project worked to increase collaboration among these divisions in particular the DP and SEIS, on issues related to program statistics and evaluation research A list of collaborators appears in Appendix A

Conceptual Framework

Much of the work of The EVALUATION Project worldwide draws on the framework shown in Figure 1, Conceptual Framework of Family Planning Demand and Program Impact on Fertility Although this framework was not designed specifically for Morocco (but is generic to FP programs worldwide), it illustrates the pathways by which the Moroccan family planning program would be expected to achieve its objectives in relation to contraceptive practice and fertility rates Figure 1 reflects both supply and demand factors The supply factors (known also as the family planning program environment) are shown in the boxes along the bottom (family planning supply factors, service outputs, service utilization) In contrast, demand factors - - strongly influenced by societal and individual variables that in turn influence the desire for a certain number of children and the demand for family planning - - are shown in the top panel

In the past, evaluation has tended to focus on results number of acceptors, contraceptive prevalence rate, fertility rate, etc Whereas those variables continue to be important in family planning evaluation, there is a renewed interest in understanding the pathways shown in Figure 1 and in demystifying the black box of family planning service delivery To this end, the portfolio of evaluation studies conducted in collaboration with the MOH, listed in Figure 2, have focused on different components (or "boxes) in the conceptual framework shown in Figure 1

Activities That Contributed to Strengthening Evaluation Capacity

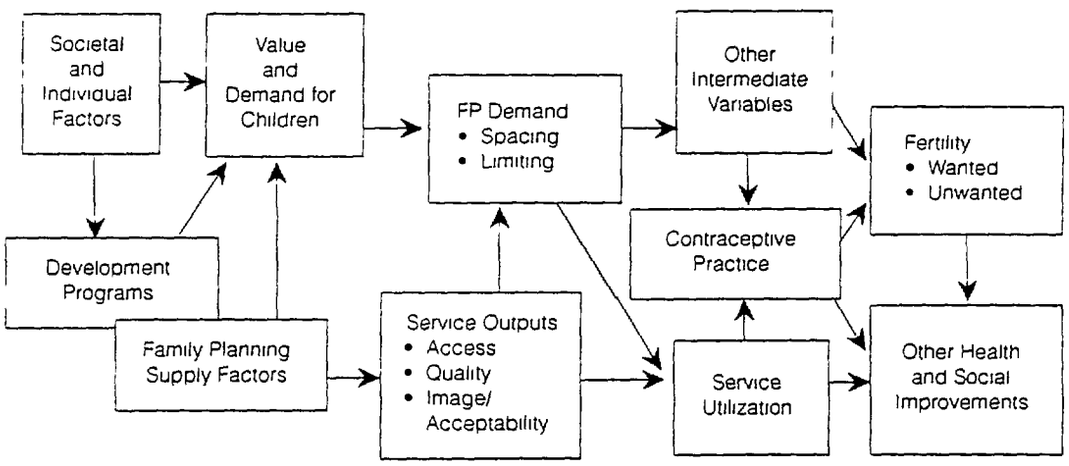
Although this report focuses on substantive findings from the portfolio of Morocco evaluation research, it is useful to document the activities that contributed to developing an evaluation culture within the Ministry of Public Health It should be stressed that Morocco began this collaboration with a relatively high level of technical capability, far higher than one might expect in many other developing countries Thus, the effort to create an evaluation culture built on a well-developed set of technical skills in the collection of service statistics, survey data collection, data entry and processing, and descriptive analysis The collaborative activities were designed to harness this technical capacity and direct it toward more in-depth analysis and a greater utilization of information for the purposes of program improvement Activities conducted to this end include the following

Technical Assistance Visits from EVALUATION Project Staff

Over the course of this five-year collaboration, EVALUATION Project/Tulane staff made a total of 29 technical assistance visits to Morocco The names of

Figure 1

Conceptual Framework of Family Planning Demand and Program Impact on Fertility



Source Samara R Buckner B and Tsui A 1996 Understanding How Family Planning Programs Work Findings from Five years of Evaluation Research Carolina Population Center The EVALUATION Project

Figure 2

Topic Areas for Evaluation Research

Service Outputs

- Access
  - The availability of Family Planning Services in Morocco 1992-1995 (Zaoui El Harim and Brown)
- Quality
  - Quality of Care (Tyane Abou-ouakil, Brown Bertrand Lauro)
  - Underutilization of the IUD (Hajji, Lakssir and Brown)

Service Utilization

- Levels and Trends in Service Statistics 1992-1996 (Azelmat Naya-Edwards Edwards)

Contraceptive Practice

- Discontinuation Switching, and Failure (Lakssir)
- The Effects of MCH Service Utilization on Subsequent Contraceptive Use in Morocco (Azelmat Heikel Hotchkiss Magnani Rous and Mroz)
- The Role of Husbands in Contraceptive Decision-making (Speizer)
- Contraceptive Intentions and Subsequent Use Program Effects (Magnani, Shafer Hotchkiss Florence)
- The Impact of Family Planning Programs on Reproductive Behavior Panel Evidence from Morocco (Hotchkiss Magnani, et al)

Fertility

- The Impact of Family Planning Programs on Reproductive Behavior Cross-sectional Evidence (Hotchkiss Magnani et al)

Other

- The Reliability of Calendar Data (Strickler Magnani, Brown)
- Determinants of Maternal Healthcare Use (Eckert)
- Household Health Expenditure in Morocco Indications for Healthcare Reform (Zineeddine Hazim, Hotchkiss)

EVALUATION Project personnel are listed in Appendix B, along with the purpose of the visit and the dates

Activities Conducted for Strengthening Technical Capacity

The range of activities to this end included the following

- central workshops,
- regional/provincial level workshops,
- on-the-job-training for data collection and analysis,
- junior fellow program,
- professional linkages (travel by Moroccan counterparts to work at Tulane),
- development and presentation of an evaluation module at INAS

The full listing of these activities with specific titles and dates appears in Appendices C and D of this report

Products Developed

In addition to evaluation studies, the project developed three main products that will continue to be of use in Morocco well into the future

- Interactive Data Base for Monitoring MCH/FP Service Statistics

  This system allows program managers, research personnel, and evaluation specialists easy access to key family planning and MCH variables from routine program statistics and selected DHS variables This product represents one of the most innovative aspects of the work of The EVALUATION Project to date and is described in greater detail in Chapter IV

- Chartbook on Family Planning/MCH Service Statistics 1992-1996

  The interactive computerized system described above is capable of producing an extraordinarily large number of charts and graphs for different variables, at different levels, for different periods of time However, it can be harnessed to produce a series of selected charts, one example of which is the Chartbook of Family Planning/MCH Statistics for 1992-1996 ' The first version of this booklet, produced in 1997, combines national and regional trends with data on key indicators for every province It is intended to stimulate performance at the provincial level, as local program managers realize their performance will be on display' in future years Of particular note, this chartbook is not a 'one time deal' but can be easily replicated in subsequent years for relatively little additional effort using the interactive computerized system

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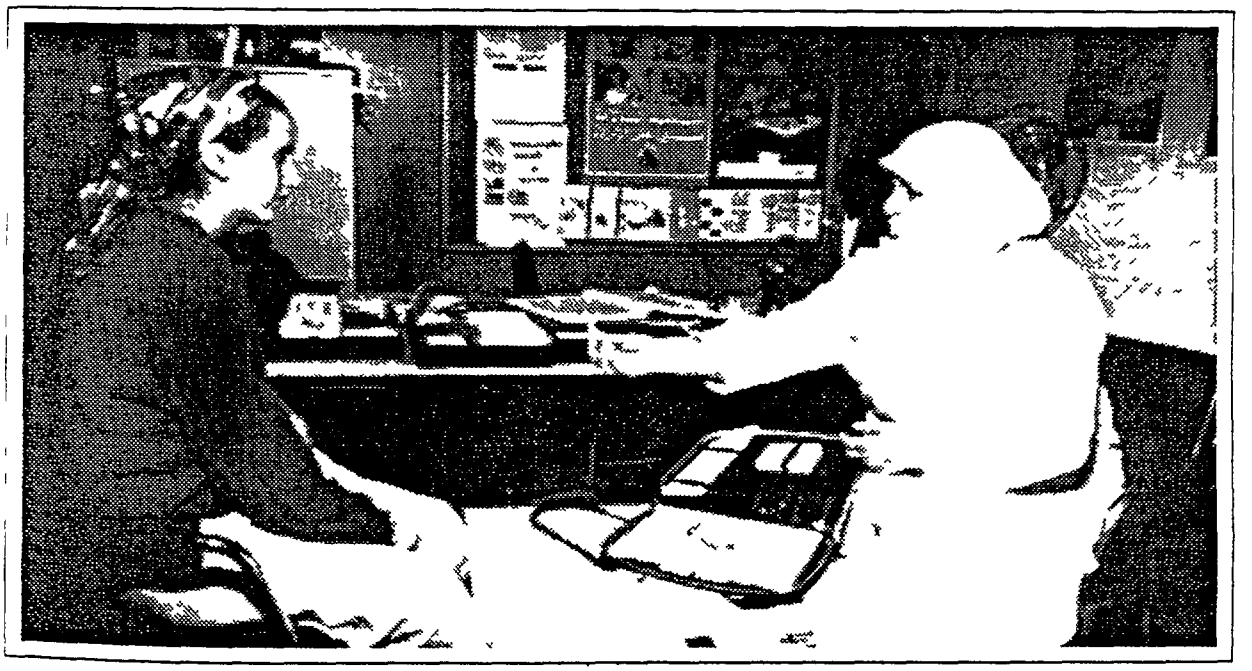
- Morocco-adapted Handbook of Indicators for the MCH/FP Program

  This manual entitled *Guide d utilisation des donnees des programmes SMI-PF* (Guide for the Utilization of MCH/FP Program Statistics) was developed to assist program managers at the provincial level to better understand the indicators in use in the MCH/FP program It provides a definition of each indicator as well as an example of how to calculate it This manual serves both as a stand alone reference and an instrument for training workshops

  The document includes an appendix on 'Training of Trainers in Utilization of Data at the Peripheral Level This module was developed in response to the need for strengthening evaluation capability at the peripheral level (regional, office and provincial officers) It outlines a curriculum that can be used in familiarizing participants with the use of the system, calculating specific indicators, and utilizing the information for improving programs It was tested in July 1997 in a series of seven regional workshops on data utilization

The remainder of this report focuses on the key findings from the portfolio of evaluation research



The pill is the predominant method of family planning used in Morocco

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Chapter II: Access to Services

Morocco is considered to have a relatively mature family planning program with good access to services This is shown by two data sources the *Carte Sanitaire* (a data base of health facilities and services offered in throughout Morocco) and the Service Availability Module (SAM) of the Demographic and Health Survey (DHS)

Carte Sanitaire

The *Carte Sanitaire* (CS) describes all the health resources available to the Moroccan population, both public and private (in part), and is managed by a division of the MOH The system originated in the 1960s as a series of documents maintained on paper and was computerized in 1987 A centralized database now allows the MOH to monitor changes in the distribution of health care resources and to plan for the future allocation of those resources The database contains information on health facilities, equipment and human resources for every public fixed health facility, as well as limited information on approximately 30 percent of private facilities Data are up-dated annually by each provincial delegate Included in this database are two variables that explicitly measure family planning services availability of the pill and availability of the IUD at each facility

Results from an analysis of the public sector sub-database of the *Carte Sanitaire* for 1992 shows that the pill is available in most public facilities regardless of location (Zaoui et al 1995) However the IUD is available in only two-thirds of urban facilities and less than one-third of rural facilities These percentages are not dramatically different from those obtained from the 1992 service availability module (described below), especially for urban areas, see Figure 3 (There is, however, some discrepancy for the IUD in rural areas)

Service Availability Module (SAM)

A second important source of data on access to services comes from the Service Availability Module (SAM) of the DHS, conducted in 1992 and 1995 in the same clusters as the household survey The 1995 study constituted a half sample of the 1992 study, the 107 clusters common to both were included in the comparative analysis The SAM is based on interviews with key informants residing in each sample cluster, who provide information on community infrastructure (e g , schools, markets, etc) and on the number and types of facilities offering health and family planning services located within 30 km of each cluster In both 1992 and 1995, the interviewers obtained information from these key informants on the nearest of each type of facility

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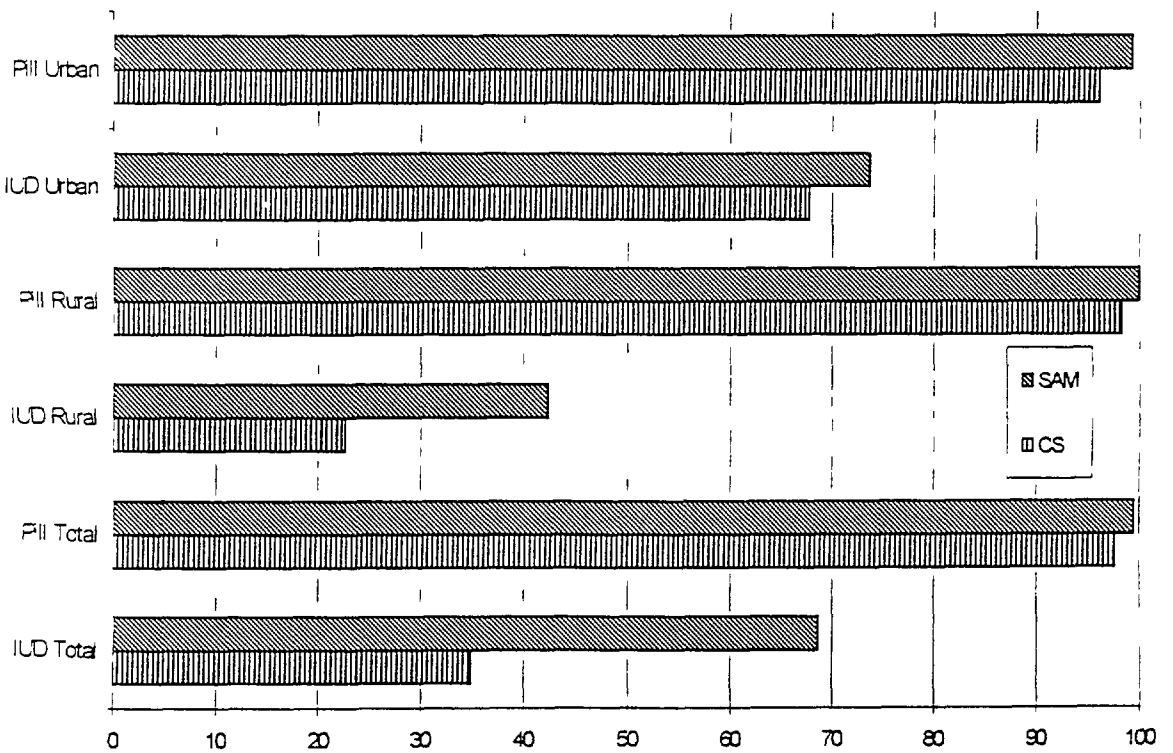
(hospital public clinic, private clinic, private doctor, and pharmacy) and visited those facilities (Zaoui et al 1995) One important modification was made to the 1995 SAM the three nearest pharmacies and doctors offices were visited rather than only the nearest

Results from these surveys indicate a high level of physical access to FP services Both the 1992 and 1995 SAMs showed that the large majority of Moroccan women (more than 90 percent) resided within 30 km of at least one basic health facility (usually public) However, access to services through community- based services declined slightly (from 56 percent to 53 percent) due to a programmatic decision to scale-down the CBD component of the national program in urban areas

Figure 3

Availability of FP Methods in 1992 as Measured by the Service Availability Module and Carte Sanitaire



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According to both the 1992 and 1995 SAM surveys, 98 percent of basic public facilities provided family planning services The only exceptions to this high level of service availability were a few pockets of low access, primarily in the mountains As the Morocco MCH/FP program matures, the improvements will be more subtle in nature, such as counseling and other elements of quality of care Serious consideration should be given to replacing the service availability module with a more appropriate methodology such as the Situation Analysis for measuring increases in these dimensions of the program

Access to family planning services in Morocco is good

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Chapter III: Quality of Services

The EVALUATION Project

With near-universal access to services in Morocco, the Ministry of Health focused its efforts during the 1990s on the issue of quality of services expanding the range of contraceptive methods, training service providers in order to strengthen technical competence, providing the equipment needed for quality services, and expanding the range of services available at facilities (e g , STD prevention services, safe pregnancy)

In 1992, in collaboration with SEATS (JSI/Morocco), the MOH embarked on a strategy to change the organizational culture for delivering MCH/FP services, consistent with the quality movement that was particularly active in international family planning programs in the early 1990s

The Quality Study

One of the first activities of EVALUATION/Tulane in Morocco was to design and implement a study in collaboration with the MOH and JSI/Morocco to provide a measurable basis for improving the quality of FP service delivery To this end a modified version of Situation Analysis was used (Miller et al , 1997) Data were collected from 49 service delivery points (SDPs) in five provinces of Morocco (selected to reflect diverse geographical and programmatic conditions) to measure six elements of quality in accordance with the Bruce/Jain framework (Bruce, 1990)

- Choice of method
- Information given to the client
- Technical competence
- Provider-client relations
- Mechanisms to encourage continuity
- Appropriateness and acceptability of services

Results from the Quality Study (Brown et al ,1995) indicated that although facilities varied between and within provinces, most had the infrastructure, equipment, and supplies necessary for the delivery of FP services Specifically, more than half the SDPs had running water an examination table with stirrups, a sterilizer, a uterine sound, Pozzi forceps and a screen for privacy In addition, the following items were present in at least 80 percent of the facilities good lighting, gloves, a stethoscope, a blood-pressure gauge, and a speculum Lo-femenal oral contraceptives and condoms were widely available (100 and 90 percent respectively)

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The majority of service personnel had received family planning training either as part of their basic medical curriculum (72 percent) or as a special course (73 percent) However, a few providers (11 percent) reported having received neither type of training Two-thirds had received some type of training within the three years prior to the study

However, the study also revealed a number of shortcomings Ovrette pills were only available at 22 percent of the SDPs, even though one-third of the clients were breastfeeding In addition, only half (49 percent) of the SDPs offered IUDs, other sites did not have personnel trained for IUD insertion or did not have the physical capacity to provide the method

One of the major shortcomings detected was the absence of IEC materials about half of the SDPs (54 percent) had family planning posters on the wall, and only 14 percent had brochures or pamphlets to use during counseling sessions This lack of materials can be traced to the central level, where, at the time of this study, the IEC program put more emphasis on broadcast media than printed materials (Brown et al , 1995)

As a part of this pioneering effort, the MOH and JSI/Morocco proceeded to utilize the results of the Quality Study to improve services in the five selected provinces To this end they coordinated workshops in each province to present and discuss the results of the study The fact that the study was done by an outside firm limited the sense of ownership of the results but the team made every effort to maximize the utilization of the data by province managers

In Taroudant, the first of the five provinces to use the study findings, program managers found it difficult to abstract useful and relevant findings for improving services from the wealth of information available To facilitate the process of synthesizing the data the researchers developed a three-column format for presenting large quantities of data, summarized as 'quality-evident, performance mixed, and needs improvement as shown in Table 1

The service improvement experience in Taroudant led to modifications in the process for the other four provinces By February 1995, all five provinces were actively implementing efforts to improve quality of their family planning services Although the efforts differed from province to province, improved counseling of clients was identified (during the workshops) as an important dimension in all provinces, and training of providers in counseling skills was subsequently expanded to other provinces Another concern in all provinces was the deteriorating physical condition in service delivery sites To improve these conditions, efforts have ranged from repainting the facilities to having benches and curtains made for clinic and

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waiting rooms Provincial team members have also developed measures to assess their own progress on service improvement

Results from the SAM 1992/1995

Although the SAM is limited in its ability to measure quality (as noted above), results from the comparative analysis of the 1992 and 1995 SAM suggest several positive results from this quality initiative (at the national level, not limited to the 49 sites) Whereas the IUD was available in 67 percent of the public health centers and dispensaries that provided FP in 1992, this increased to 80 percent by 1995 In addition, the percentage of public health centers that did not have stockouts for the IUD increased during the same period from 55 percent in 1992 to 70 percent in

Table 1

Example of Format for Presenting Results from the Quality of Care Study

VARIABLE	QUALITY EVIDENT	PERFORMANCE MIXED	NEEDS IMPROVEMENT
Types of Contraceptives Available	All facilities had Lo Femenal (1 00) Most facilities had condoms (0 90)	Some facilities had IUDs (0 49)	Few facilities had Ovrette (0 22) tubal ligation (0 02) or training for natural FP methods (0 14)
Methods Mentioned by Providers	Most providers mentioned Lo Femenal (0 85)	Some providers mentioned the IUD (0 65)	Few providers mentioned condoms (0 35) or tubal ligation (0 13)
Provider/User discussion on Choice of Method		Some providers asked if the user had a preferred method (0 54) Some providers took the woman's health status FP experience etc into account during method choice (0 56) Some users participated in the choice of method (0 56) Some providers insisted on a particular method 0 50)	

The classification of responses in these tables is based on the proportion of facilities with the appropriate response (reflecting good quality of care) as follows

Quality Evident	0 80 to 1 00
Mixed Performance	0 40 to 0 79
Needs Improvement	0 00 to 0 39

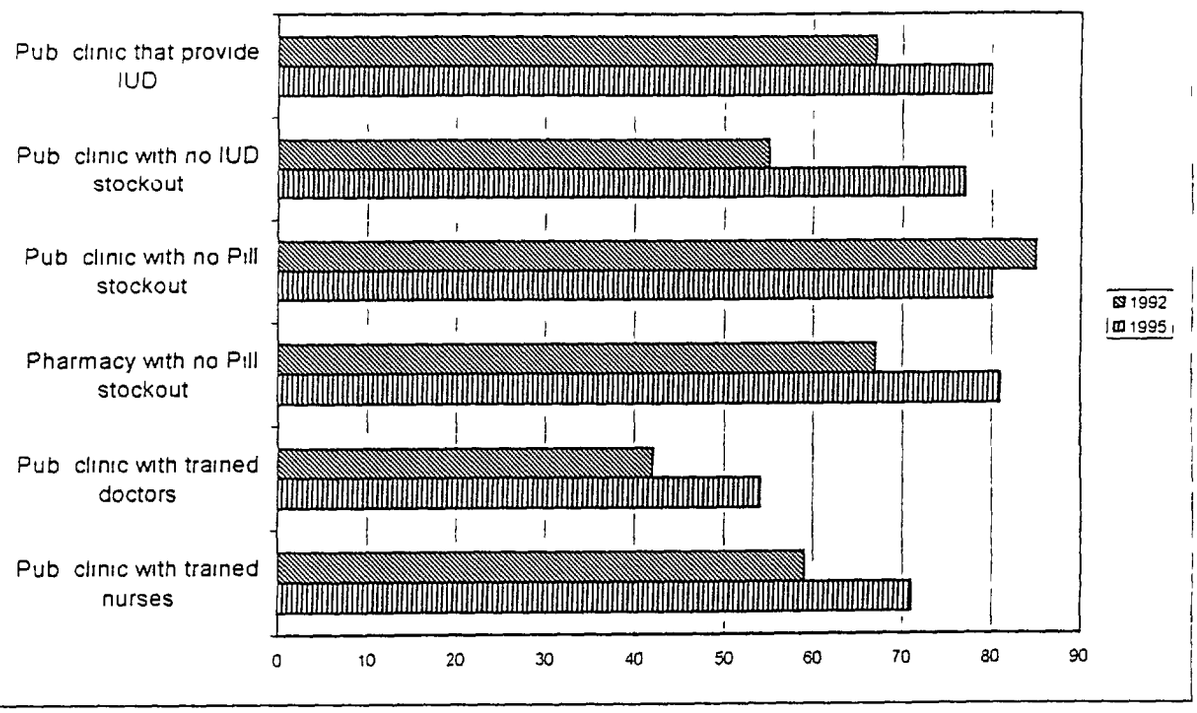
1995 (See Figure 4) Among those public facilities that provide FP an increase in the number of trained providers was also observed, particularly among physicians, indicating an increased capacity to provide a range of services at public facilities

Under-utilization of the IUD

Despite the choice of methods available in the Morocco program, there has been an overwhelming and persistent predominance of the pill in the method mix (see Figure 5) As of 1992, 3 percent of married women of reproductive age in Morocco used the IUD (in contrast to 28 percent using the pill) Among contraceptive users, only 8 percent opted for the IUD compared to 68 percent for the pill In the early 1990s, the MOH with support from USAID/Morocco undertook a major initiative to train service providers in IUD insertion and counseling techniques Over 1300 doctors and nurses were trained from 1991 to 1995 as part of this program However, results from the 1992 and 1995 DHS showed little improvement in the acceptance of the IUD Among married women of reproductive age, the percent using the IUD increased from 3 to only 4 percent As a percentage of all users of contraception, the

Figure 4

Measures of Quality from the SAM 1992-1995



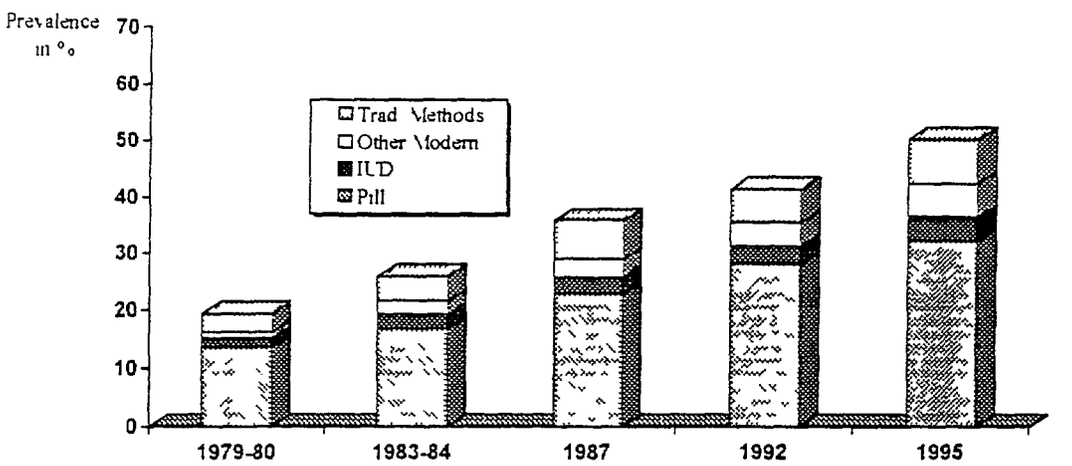
IUD increased from 8 to 9 percent in this same period In short, little progress had been made in the promotion of the IUD [4]

To this end the MOH, The EVALUATION Project, and JSI/Morocco designed and carried out a study to better understand the reasons for the under-utilization of the IUD This study employed a variety of qualitative research techniques including focus groups in-depth interviews, direct observation of clinical procedures, and mystery client observation, in addition to a quantitative survey among service providers The study was conducted in 84 health facilities in 12 provinces selected using two-stage sampling The breakdown by type of facility was

MOH health centers	56
Private clinics	24
IPPF clinics (included if there was one in the selected province)	4

Figure 5

Trends in Contraceptive Prevalence and Method Mix over Five Surveys in Morocco



[4] The initial emphasis on the IUD as an alternative to the pill relates to the fact that in the early 1990s Depro-Provera and NORPLANT® had yet to be introduced in Morocco and voluntary sterilization is not widely accepted in this Muslim culture Thus the IUD represented an important alternative to the pill although more recently the injectables and NORPLANT® have also become available

These different research techniques collectively provided substantial insight into the reasons for the under-utilization of the IUD Although service providers professed to promote this method when interviewed directly, the mystery clients had a different experience Often their expressed interest in the IUD was not taken into consideration, and instead the service provider recommended the pill (possibly because it is easier to deliver and requires less time than an IUD insertion)

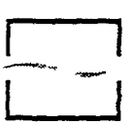
The widespread use of the pill appears to be self-perpetuating in that potential clients learn of this method from friends and arrive to the clinic wanting and expecting to get the pill The decision-making generally is undertaken at the level of the household, with the agreement of the husband, when women want to use the IUD

Although some rumors exist over the pill, rumors over the IUD are even more extensive The most widespread was that the IUD hooks to the penis of the man, resulting in the couple being stuck together This rumor blanketed the country after an unverified report about a bank manager and his mistress, known as the Casablanca Affair appeared in the popular press Other concerns that surfaced in the focus groups were

- the IUD is not compatible with the nature of women s work (hard physical labor),
- rumors and fear of pregnancy,
- problems of access and follow-up procedures,
- opposition from husband

Women who had tried but abandoned the IUD gave several reasons side effects (bleeding, spotting, abdominal pain, etc), fear of infection, and rumors

In terms of Client-Provider interaction, findings from the study showed that in general women were satisfied with the quality of the reception in the health facilities Women generally felt that the waiting-time was acceptable However in terms of information and explanation, there was widespread agreement (and frustration) that they did not receive enough information and explanation from the providers regarding the method used



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Findings from the study have been used in improving service delivery for this method Specifically, in 1997, the results were disseminated in a series of regional workshops for the service providers, which included refresher training in counseling and IUD insertion The findings have also served as a basis for orienting an IEC campaign to promote the IUD

Chapter IV: Service Utilization: Levels and Trends

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Routinely collected program statistics are an important source of information for an FP program At the central level they allow administrators to track and compare the performance of provinces over time At the local level they provide program managers with a tool to monitor their own performance and take corrective actions as needed Whereas this is the ideal scenario, program statistics - - even when carefully collected and reported - - are not always used as a managerial tool to guide decision-making

The EVALUATION Project/Tulane provided technical assistance to the MOH to develop a system for processing and presenting routinely collected service statistics from the Systeme National d Information Sanitaire, or SNIS The program statistics flow from the provinces to SEIS, a copy is also sent to the Direction de la Population In past years these statistics have been compiled and published as part of a large volume containing statistics for all health programs, but this format did not facilitate their use by program managers

Interactive Computerized System

One of the key achievements of the collaboration between the MOH and The EVALUATION Project was the development of a state-of-the-art interactive computerized system to aid program managers in monitoring MCH/FP program outputs (Edwards et al 1997) Subsequently, JSI/Morocco has supported the further refinement of this tool This system has a number of important features

- The system is menu-driven and easy-to-use, program managers can examine trends over time and/or geographical differences (by region or province),
- The program data are linked with population estimates of catchment areas, based on the 1994 census, to yield estimates of coverage/prevalence not usually available from program statistics,
- The system produces tables and different types of graphs on more than 20 indicators for the MCH/FP program at any of three levels provincial, regional and national, in addition it also contains a limited number of indicators from the DHS and yields trends over time from national surveys (in 1987, 1992, and 1995),
- The user can selectively output tables, graphs and maps to screen, file or printer,
- The system can be used to generate a chartbook of program statistics for the

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central, provincial or local level, containing the indicators specified by the user,

- Geographical comparisons can be shown on colorful maps that facilitate interpretation and point to trouble spots,
- The system uses routinely reported data (except for the DHS), which are available on a continuous basis at less expense than population-based surveys, it can be continuously updated by including new information or corrections in previously reported figures, giving users the most recent information available

MCH/FP Program Performance 1992-96

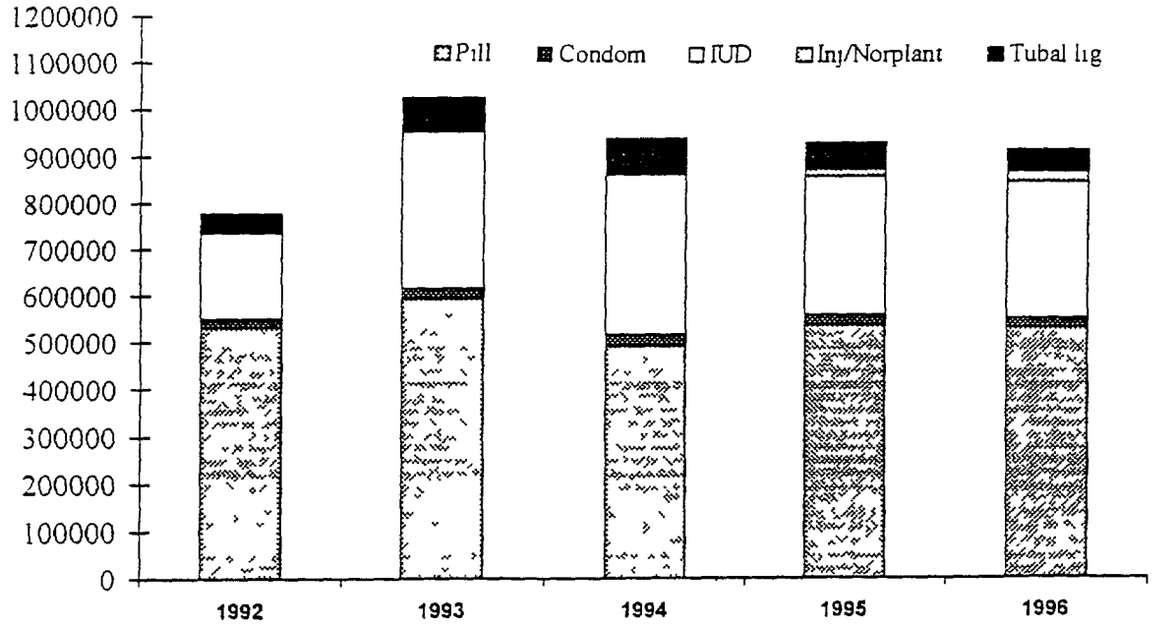
The computerized system tracks levels and trends in service utilization (MCH/FP outputs from 1992 onward) Key findings that illustrate the utility of this system include the following (these data can be accessed through the internet)

Trends in CYP Over Time 1992-1996

The data presented herein are limited to the last five years for which data are available 1992-96 As can be seen from Figure 6, the level of CYP in Morocco increased from around 780 000 in 1992 to over one million in 1993 However, as of 1994 CYP dropped slightly and plateaued at just under one million CYP per year It is

Figure 6

Trend in CYP by Method and by year 1992-1996



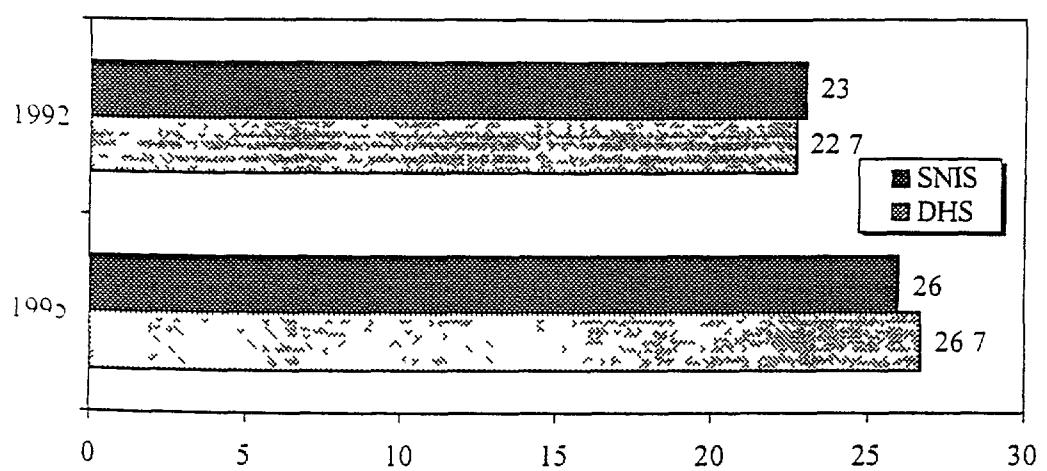
important to recognize that 36 percent of users in Morocco obtained their methods from the private sector in 1992 and that this percentage increased to 37 percent in 1995 (DHS, 1992 1995) Thus this leveling off of CYP does not mean prevalence is also stagnant, since couples may also get supplies from the private sector

Comparability of Service Statistics and DHS Data

The SNIS system estimates the level of contraceptive prevalence attributable to the MOH program by dividing the total CYP for a given year by estimates of the population of married women of reproductive age (based on the 1994 census data) This proxy of contraceptive prevalence (public sector only) is known locally as the taux d utilisation contraceptive (contraceptive utilization rate) It is possible to validate these CYP estimates using data from the DHS Figure 7 compares the estimate of the taux d'utilisation with DHS contraceptive prevalence - - for users of public sector facilities only - - for 1992 and 1995 (the two most recent DHS studies) The results indicate a high level of comparability, lending further credence to SNIS data

Figure 7

Comparison of the (public sector only) Contraceptive Prevalence Rate based on SNIS and DHS Data 1992-1995



Method Mix

Method mix is most accurately calculated using DHS data (see Fig 5) However, data on the volume of contraceptives distributed by the program - - converted to a single measure of couple-years of protection (CYP) - - also provides a useful reflection of method mix (Note this can be biased if the proportion of users relying on long-term methods, especially sterilization, varies substantially from one year to the next but this is not the case in Morocco) Also using CYP to measure method mix excludes users of non-program (traditional) methods

The graph in Figure 6 shows that most contraceptive users opt for the pill IUD, or female sterilization The latter two methods constitute a larger portion of all use in this figure than in Figure 5, since the great majority of users of the IUD or female sterilization obtain these methods through MOH facilities By contrast, data on method mix from the DHS also include users who obtain their supplies from alternative sources (e g , pharmacies, shops, etc) and thus are not counted in MOH program statistics

Provincial Breakdowns

The computerized system also allows for comparison of provinces on specific indicators such as the taux d'utilisation contraceptive,' as shown in Figure 8 All 64 provinces are rank-ordered according to performance on the indicator (This ranking is possible since the numerator data - - sensitive to the size of the population - - are combined with estimated population size to yield rates, which lend themselves to comparison)

For example from Figure 8, it is evident that the top-ranking provinces on CYP coverage are Meknes el Menzeh, Beni Mellal, Al-Ismailia Assa-Zag, and Fes el Jadid The numbers on the right represent an estimate of the absolute number of married women yet to be reached per province (calculated by multiplying the estimated number of married women of reproductive age in the province by the estimated percent of non-use of contraception) These statistics can also be illustrated on maps to facilitate comparisons across provinces and regions, as shown in Figure 9

The development of this computerized system has important programmatic implications First, it gives program managers easy access to the information they need and for the level they need in a format that is easy (even fun) to access As the Chief of the Family Planning Division put it 'Finally, I can get the information I need Second, the cost of population-based surveys continues to escalate, yet donor requests for information remain high The computerized system developed in Morocco demonstrates a cost-effective alternative for the estimation and presentation of service statistics that can be verified from DHS data

Chartbook

SEIS was interested in producing a chartbook that would highlight the levels and trends for MCH/FP program indicators over time This publication would give decision-makers a general view of the evolution of performance in the different MCH/FP programs As development of the computerized system advanced, it became increasingly evident that

- the computerized system could generate all the information needed for the chartbook,
- a standard format could be established so that the system could be used repeatedly to generate a similar chartbook in subsequent years, and
- one could use the system to generate the necessary information for any region or province that wanted its own chartbook

In short though SEIS in collaboration with The EVALUATION Project and JSI/ Morocco have generated a colorful, visually interesting chartbook that tracks levels and trends for 1992-96 the far greater value is the computerized system that will allow for easy generation of these same statistics in future years and for lower administrative levels within the system

Figure 8

CYP Utilization by Province 1996

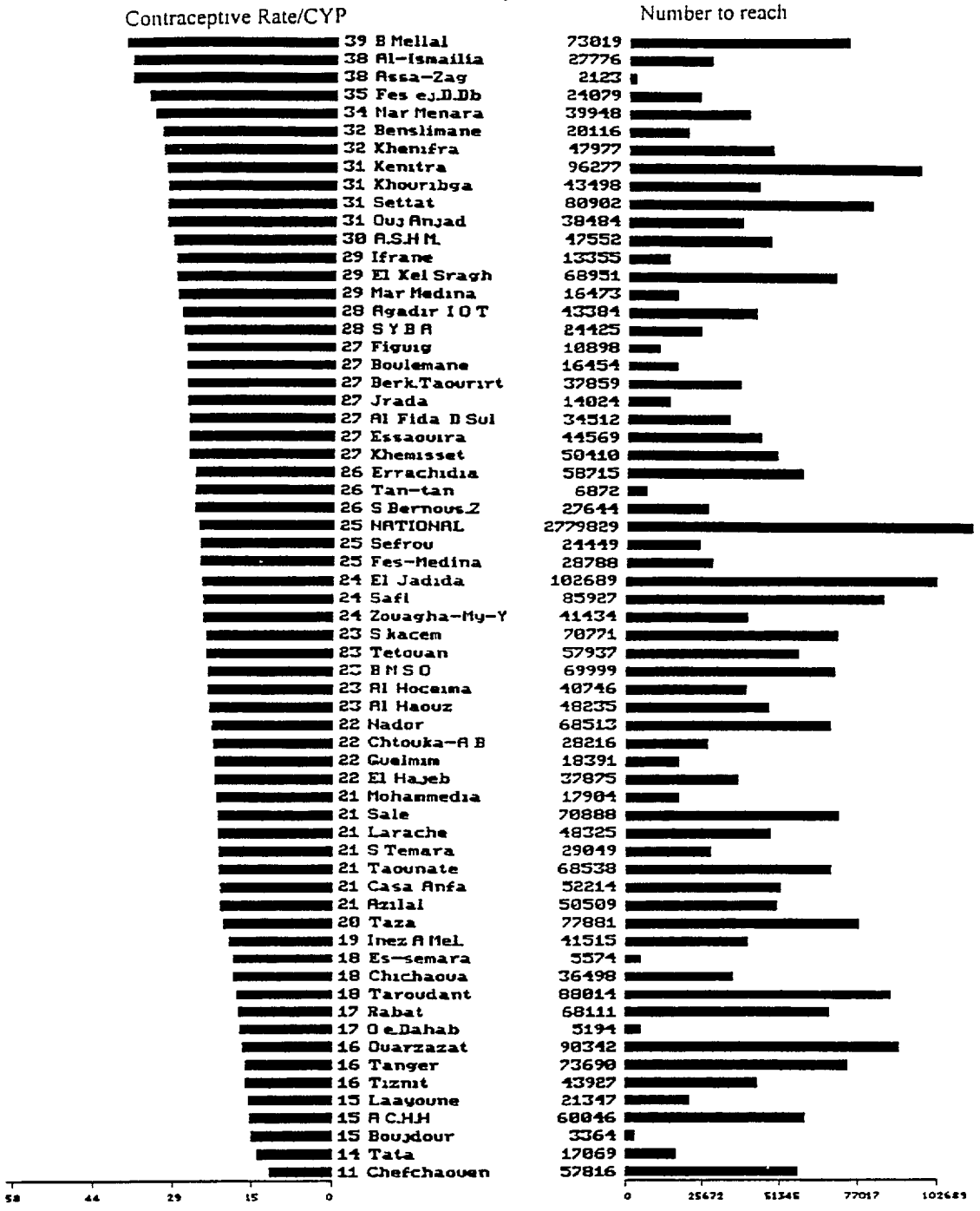
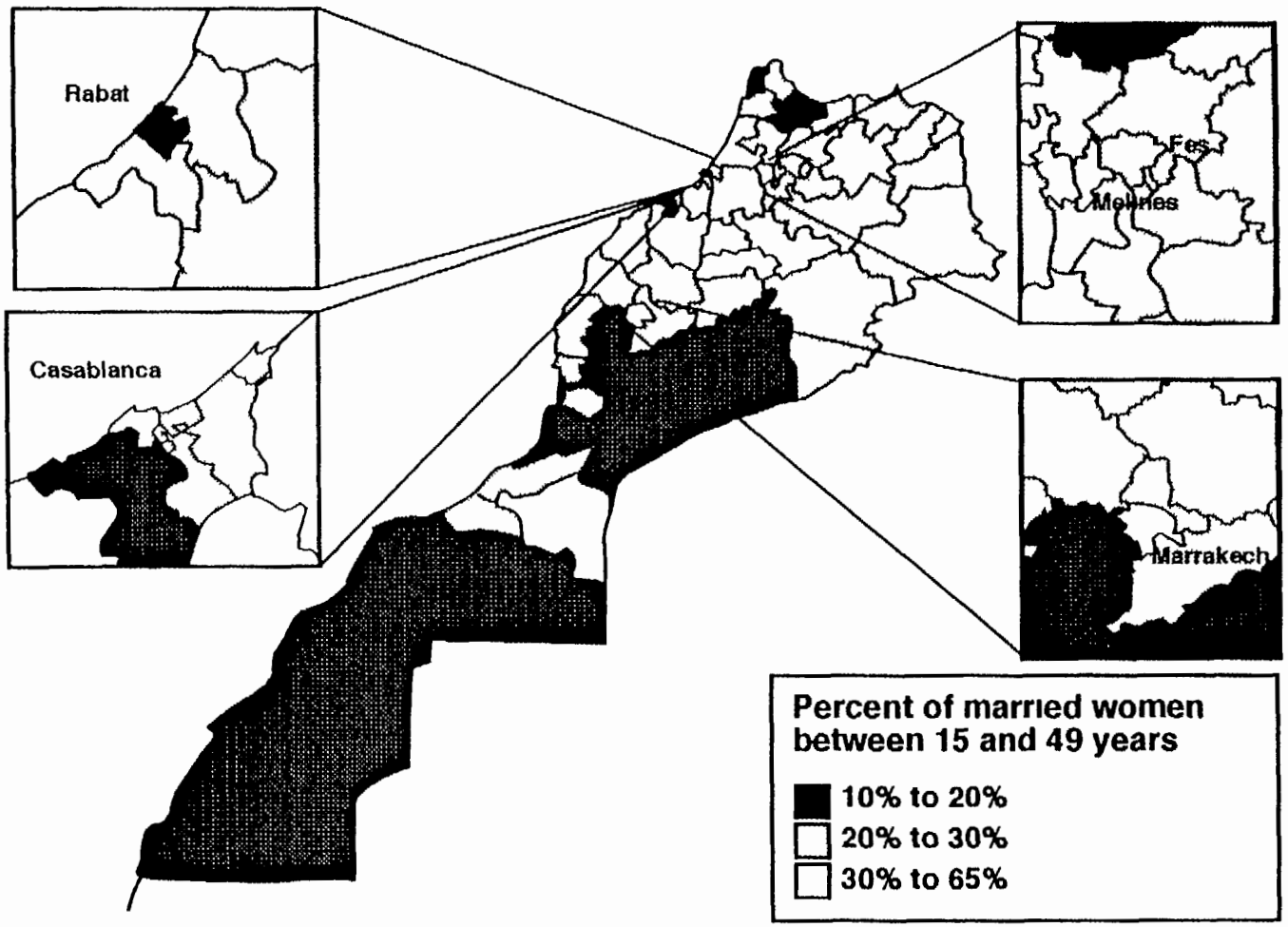


Figure 9
Map of Contraceptive Utilization Rate by Province, 1996



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Chapter V: Contraceptive Practice

Data from the DHS and other population-based surveys show a steady upward progression in contraceptive prevalence from 1980 to 1995 (see Figure 5) The findings (not shown here) reveal the usual differentials in use by urban/rural female education, and other socio-demographic correlates These findings have been reported in full detail in the country DHS report (Azelmat et al , 1996)

As a complement to the standard DHS analysis, EVALUATION staff and Morocco counterparts carried out a series of secondary analyses to better understand the dynamics of contraceptive use in Morocco Two of these studies addressed the following questions

- Do discontinuation and failure rates differ by method? What is average duration of use and why do couples discontinue use?
- What role do husbands play in reproductive decision-making? Do wives accurately perceive their husbands fertility desires?

Four other analyses focused on the role of the family planning supply environment as a determinant of contraceptive use (to answer the question does contraceptive use vary in relation to the strength of the program?) [5] These analyses utilized multi-level multivariate techniques (and in two cases, longitudinal data) to measure the impact of FP programs on contraceptive use This series of studies addressed the following issues

- Does the use of MCH services increase the likelihood that a woman will also use contraception? Is this more likely to occur where FP services are strong?
- Does the strength of FP services influence the transition from intending to use to actual use of contraception?
- To what extent does the FP program itself (as opposed to more generalized social and economic factors) have an impact on contraceptive use?
  - Can this be shown from cross-sectional data?
  - Can this be shown from panel data?

These six secondary analyses provided useful insights into contraceptive practice as outlined below

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[5] Incorporating the FP supply environment as a potential determinant of contraceptive use has been one of the hallmarks of EVALUATION Project work

Contraception Use Dynamics in Morocco Discontinuation, Switching, and Failure

The objectives of the study were

- to estimate the discontinuation levels for the contraceptive methods delivered by the Moroccan Family Planning Program,
- to determine the reasons for discontinuation, by method,
- to examine the behavior of couples that abandoned specific methods, and
- to determine the failure rate for each selected method

The study used the calendar data from the 1995 DHS Panel survey (Azelmat et al , 1996) The unit of analysis was the segment of contraceptive use (i e , an uninterrupted use of a specific contraceptive method) among women aged 15 to 49 years Thus a woman could contribute more than one segment in the sample The analysis employed life tables techniques (single-decrement life table, multiple-decrement life table and the associated single-decrement life table)

Table 2

Life table discontinuation rates (%) and median duration of use by method, Morocco 1995

Methods	12-month discontinuation rate	24-month discontinuation rate	Median duration of use (months)	Number of segments of use
Pill	39 4	59 6	17 7	1560
IUD	17 4	37 1	34 1	140
Traditional methods	50 5	68 7	11 8	377
Other modern methods(1)	41 6	46 6	31 4	157
Total (1)	40 1	59 0	17 7	2234
Total (2)	41 1	60 3	16 9	2181

(1) Including 53 segments for female sterilization
(2) Not including female sterilization

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How long does a woman in Morocco continuously use a contraceptive method? Results showed that the 12-month discontinuation rates ranged from 17 percent for the IUD to 51 percent for the traditional methods (see Table 2) (That is, within 12 months 17 percent of users were no longer using the IUD) Of particular interest is the pill, the predominant method in use in Morocco Among pill users 39 percent abandon the method within one year of use and 60 percent within two years (Lakssir, 1997)

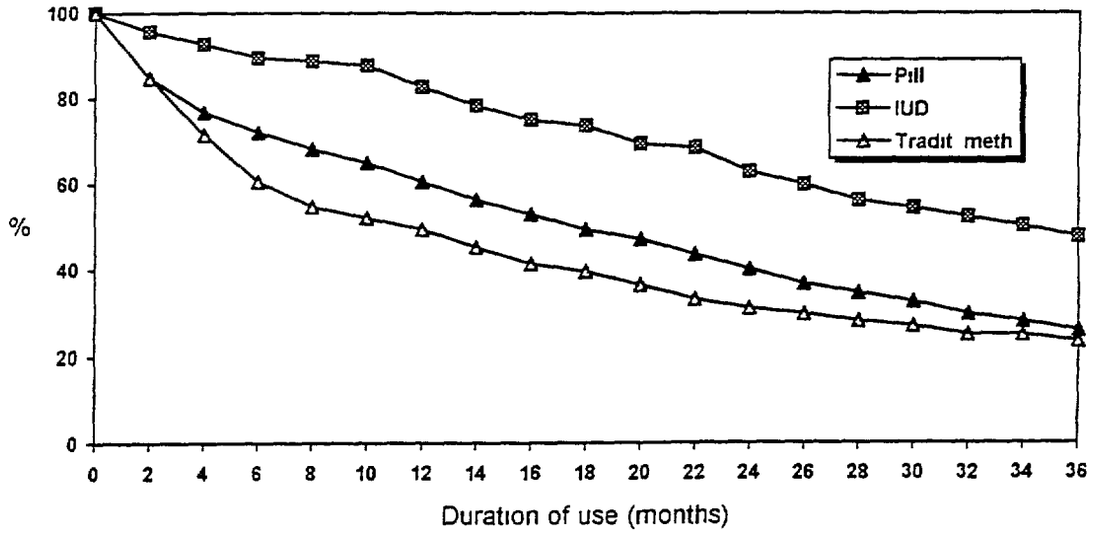
The median duration of use for the pill was 17 7 months Discontinuation was higher among urban, among the educated women, and among those who were using it for spacing (Note no other method had enough users to establish demographic characteristics associated with discontinuation)

The reasons for discontinuation varied by method (see figure 11) The main reason for discontinuing the pill was desire to get pregnant whereas for the IUD it was side effects Discontinuation of other modern methods and of traditional methods occurred most frequently for method related reasons (e g , husband s disapproval inconvenience of use, lack of access, etc)

Among women who discontinued use (of any method) within a year most either switched to another method (27 percent) or were no longer in need of contraception (63 percent) for one of several reasons method failure desire to get pregnant infe-

Figure 10

Percentage of women who continue use by method over time Morocco 1995



cundity or menopause, separation or widowhood, or infrequent sex IUD users tended to switch to another method whereas the majority of pill users were no longer in need of contraception for the reasons cited above, especially in rural areas where women were more likely to desire pregnancies

Table 3

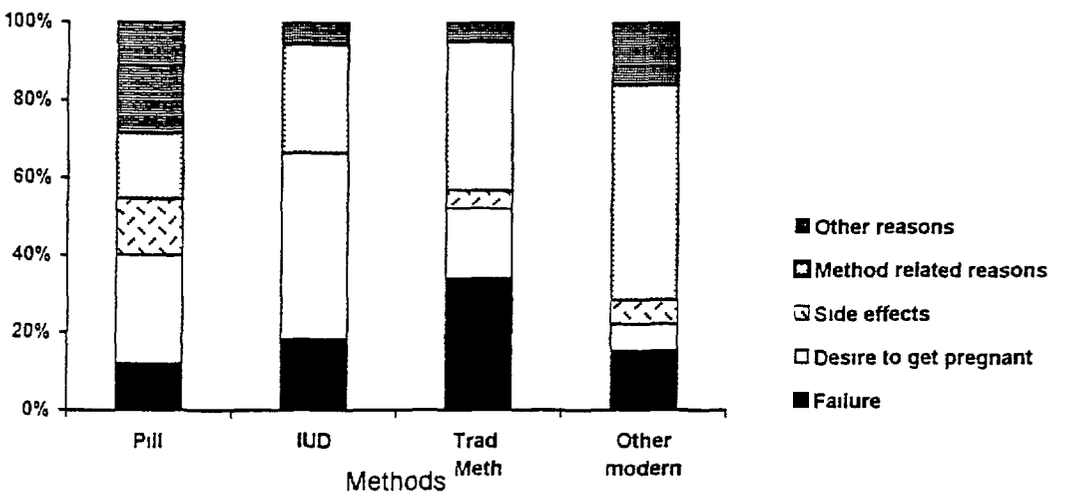
Life table 12-month gross failure rates (and 95 percent confidence intervals) by method Morocco, 1995

Methods	Failure rate	95 percent confidence interval Lower bound	Upper bound
Pill	6 3	4 9	7 6
IUD	3 4	0 1	6 8
Traditional methods	21 7	16 8	26 6
Other modern methods(1)	8 9	3 2	14 6
Total (including sterilization)	8 8	7 4	10 2
Total reversible methods	9 1	7 7	10 5

(1) Including sterilization

Figure 11

Reason for discontinuation (12 months) by method Morocco 1995



The 12-month contraceptive failure rates were significantly higher for traditional methods than for modern methods, failure rates ranged from 3 percent for IUD to 22 percent for traditional methods (see Table 3) The difference between the failure rates among modern methods was not statistically significant The 12-month pill gross-failure rate was 6 percent and did not vary significantly by the background characteristics examined (place of residence, level of education, age, and reason for use)

The results have important programmatic implications Given the widespread use of the pill combined with a relatively high level of discontinuation in Morocco, its potential effectiveness for preventing unwanted births and decreasing fertility is diminished Approximately half of women who discontinue the pill do so because of method failure or dissatisfaction with health effects Thus, efforts should be made to diversify the method choice to better meet the needs of Moroccan couples We assume that if more contraceptive options are made available, the women will be more likely to switch to other methods instead of discontinuing contracepting all together The main reasons for IUD discontinuation are side effects not tolerated by women Therefore special attention should be given to counseling adapted to this method (Lakssir, 1997)

The Role of Husbands in Contraceptive Decision-making

The purpose of this study was to determine the role of husbands in women s family planning decision-making process and specifically to assess whether husbands are a true and/or a perceived barrier to family planning use This study also examined the accuracy of womens perceptions of their husbands fertility desires which would indicate whether women s perceptions of their husbands fertility desires should be used as a proxy for obtaining husband data in future research

The study used the 1992 DHS for a sample of 567 couples (i e , cases where data were available on both the husband and the wife) Three analyses are undertaken The first two analyses used cross tabulations and kappa statistics The last analysis used logistic regression to examine the effect of husbands fertility desires on women s family planning use, controlling for the women s own fertility desire and other background variables (Speizer, 1997)

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Without male data inferences on mens role in family planning adoption remain just that inferences Women and men do not necessarily report identical behaviors and desires, and using the woman s reports to represent the couple may misrepresent the couples attitudes and behaviors This analysis provided an excellent opportunity to examine this issue in the context of Morocco

The majority (83 percent) of women who thought their husbands no longer wanted children accurately perceived their husbands fertility desires Among women who thought their husbands wanted more children, only 23 percent were accurate Therefore, when women misperceived their husbands fertility desires, it typically resulted in the husbands appearing more pronatalist than they really were This over-estimate of male fertility desires could bias results in future studies if husband data were not obtained

The analysis examined three factors that potentially affect contraceptive use

1) the women s own fertility desires,
2) the woman s perceptions of her husband s fertility desires, and
3) the husband s true fertility desires

For women who wanted to delay a birth, only the woman s desire and her perception of her husband s desire mattered The husband's actual wishes proved to be less of a barrier However, when a woman was ready to limit her family size, her husband s true and perceived fertility desires did matter

These findings have several programmatic implications Some women have an unmet need for family planning, but incorrectly perceive their husbands fertility desires and thus do not adopt family planning to meet their own fertility preferences Family planning programs that emphasize male involvement may have important impacts on family planning use by correcting misperceptions of high fertility desires, improving husband and wife communication on contraceptive use, and indirectly reducing the effect of husbands as true or perceived barriers to family planning use (Speizer, 1997)

An important set of secondary analyses focused on the supply environment as a determinant of reproductive behavior The four studies described directly below have attempted to test this relationship in different ways

The Effects of MCH Service Utilization on Subsequent Contraceptive Use

Given the worldwide movement toward the integration of FP with other MCH services, an important policy question is whether the utilization of one service encourages use of others The hypothesis tested in the current study was

(1) that a woman s utilization of MCH services would increase her likelihood of using contraception, and

(2) that this link between MCH and FP services is more likely to occur where service delivery is strong (that is, one would expect the relationship to be influenced by variations in the supply environment)

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The study was carried out at the level of individual women to ascertain the role that MCH service utilization plays in individual contraceptive-use decisions Multi-level regression techniques were used to model (i e , determine the relative importance of) three sets of factors in predicting current contraceptive use

- the adequacy of the FP and MCH services at facilities available in a given community (e g , availability, quality),
- community- and individual-level factors (examples urban/rural status, environmental health infrastructure at the community level, age level of education at the individual level),
- extent of utilization of MCH services (as measured by an index of MCH visits)

The sources of data were the 1992 DHS household survey and SAM

In this analysis, the intensity of MCH service use (as measured by a service-use index) emerged as a statistically significant determinant of subsequent contraceptive use among Moroccan women, and the magnitude of this effect was substantial That is women who used MCH services were more likely than others to also practice contraception The findings also indicated that contraceptive use as well as MCH service use were influenced by the supply environment for family planning and health services (i e this relationship was more likely to occur where service availability/quality was high) However the magnitude of the supply-side effects, while statistically significant, was rather modest

From this study it is not possible to conclude whether the MCH/FP relationship was a result of service integration per se or other factors However the results indicated that improving the supply environment for MCH services would be expected to improve the prevalence of contraceptive use via MCH utilization

Contraceptive Intentions and Subsequent Use Family Planning Program Effects

This analysis examines the question how effectively do family planning services facilitate the transition from intended to actual contraceptive use?

Data from the 1992 and 1995 Morocco DHS were used in the study, along with 1992 SAM data In the analysis, the probability that a contraceptive non-user in 1992 had adopted a method during the 1992-95 period was modeled as a function of (1) stated intentions to contracept in the 1992 survey, (2) family planning supply-side factors, and (3) individual- and community-characteristics A two-equation model was used to control for the endogeneity of contraceptive intentions and use (i e , unobserved confounding factors) Morocco is the only DHS country to date to

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repeat a survey among the same respondents on two consecutive surveys thus, it provides a unique opportunity to study this question

The results indicate that both contraceptive intentions and selected supply-side factors (e g , number of sources of family planning service within 10 km , method availability at the nearest public clinic, number of sources of oral contraceptives at nearest facilities, by type of facility) emerged as significant predictors of subsequent contraceptive use (Hotchkiss et al , 1997a) Although a stated intention to contracept was the strongest predictor of subsequent contraceptive use, respondents were significantly more likely to have adopted a method when the family planning supply environment was favorable than when it was less favorable, irrespective of their stated intentions in 1992 Interestingly, supply-side effects were larger for women who stated no intention to contracept in the future (as reported in the 1992 interview) than for women who intended to contracept, suggesting a supply-side effect on contraceptive intentions/demand

In terms of program implications, the findings support the notion that family planning programs influence contraceptive use both by generating demand for contraception and satisfying existing demand While the family planning supply environment was observed to play the expected role in facilitating contraceptive adoption - - given a certain level of demand - - the findings suggest that the demand-generating role may be as important The findings also confirm the utility of survey questions on contraceptive intentions as reasonably accurate predictors of future contraceptive behavior Survey data on contraceptive intentions might be effectively used by programs to forecast future service utilization levels and contraceptive supply requirements

The Impact of the Family Planning Program on Reproductive Behavior Cross-Sectional Evidence

To what extent does the FP program itself (as opposed to more generalized social and economic forces) have an impact on fertility intentions and behaviors? The EVALUATION Project was initially designed in large part to address this question (although its functions expanded far beyond this in its actual implementation) To this end, The EVALUATION Project developed and refined a methodology for examining this question Morocco is one of the few countries in the world that has the data sources needed to use this methodology (i e , a DHS survey at two points in time - - 1992 and 1995 - - with the household and facility data collected in the same cluster)

The reproductive intentions and behaviors (examined as dependent variables) included

- desired family size,
- additional children desired,
- contraceptive utilization,
- total number of births, and
- births in the past five years

Variables used to measure availability/quality of FP services were

- distance to the closest public clinic,
- number of years facilities have offered family planning,
- availability of contraceptive supplies,
- facility infrastructure

Individual factors included

- educational attainment
- proxy measures of household wealth

The analysis attempted to determine the relationship of program factors, community- and individual factors to reproductive behaviors in 1992 and again in 1995 (separately)

The results of the study (Hotchkiss et al , 1997b) did not provide consistent and conclusive evidence, as shown below Access has a significant and negative impact on ideal family size in the 1992 model whereas it had a significant and positive impact on modern contraceptive use in the 1995 model Community-based distribution has a significant impact on modern contraceptive use in the 1992 model, but not in the 1995 model Quality in the form of superior stocks of contraception methods has a negative and significant effect on the total number of births in the 1992 model, but not in the 1995 model In short, the results of this cross-sectional analysis were inconclusive

One might ask does this mean the program didn t have an impact on reproductive intentions and behaviors? The more plausible explanation for the lack of consistent effects relates to limitations of the methodology First, the data used in this analysis were collected many years after the Morocco family planning program s launch during the 1960s and the 1970s As a result, the variation in measures of access in recent years is probably smaller than what would have been found in the years in which the program was experiencing substantial growth Second, the long duration of Morocco s family planning program may have contributed to a large degree of

measurement error in responses regarding the duration of family planning exposure For example the health practitioners who responded to the facility survey may have been far off the mark in their answers to the question 'When did the facility first offer family planning?' Third the SAM yields fairly limited information on the family planning facilities and provides little information on how services are delivered As a result, our model may exclude important information on the process of care that potentially may have a large impact on contraceptive behavior and fertility outcomes These methodological limitations are further discussed in the box on the next page

The Impact of the Family Planning Program on Reproductive Behavior Panel Evidence

The cross sectional analysis (reported directly above) produced inconclusive results on the impact of the Morocco FP program on fertility behavior The current analysis represents an alternative and potentially more powerful analytic approach to examine the relationship using longitudinal data These data were available from the 1995 DHS, which constituted a panel of a subset of the respondents interviewed in the 1992 DHS As with the cross-sectional study, this analysis examined the impact of Morocco s family planning program reproductive behavior but in this case contraceptive prevalence was the only outcome variable

The purpose of this study was to estimate the impact of changes in the family planning supply environment on changes in the prevalence of contraceptive use between 1992 and 1995

Data from a panel of women interviewed for the 1992 and 1995 Morocco DHS were used in the study, along with 1992 and 1995 SAM data In the analysis, a fixed-effects model was estimated, in which changes in whether a woman used a modern method are a function of (1) changes in the family planning supply-side factors, including training of doctors and nurses, the availability of supplies, the level of infrastructure, and the accessibility of facilities and community-based distribution, and (2) changes in individual-level and household-level characteristics The statistical methods used in the analysis control for the effect of unobserved variables that are correlated with both reproductive behavior and family planning program placement

The study showed the following The use of modern contraceptive methods among the women included in the panel increased from 39 percent in 1992 to 47 percent in 1995, an increase of 21 percent Among contraceptive users, the method mix remained relatively constant

Regarding changes in the family planning supply environment, the percentage of doctors and nurses who were trained in family planning increased during the period (from 20 to 26 percent), and the percentage of clinics that IUD with no stock-outs increased 41 percent Physical access to clinics that offer family planning remained constant during the period

The results of the fixed-effects model[6] indicate that changes in the family planning supply environment also played a significant role on the increased use of modern contraception techniques among the panel women Two family planning program variables emerged as significant predictors of modern contraceptive use the training of nurses in the closest clinic offering family planning, and an index of the availability of infrastructure in the closest clinic Changes in the training of doctors and the availability of IUDs were not significant predictors of changes in modern contraceptive use

In sum the results of the fixed-effects analysis indicate that the improvements in service delivery had a measurable impact on contraceptive prevalence Of particular interest is the finding that the training of nurses, one of the primary initiatives of the family planning program during the 1992-95 period, resulted in higher levels of modern contraceptive utilization

Of note training of nurses did not emerge as a statistically significant determinant of contraceptive use in the cross-sectional model described earlier This is most likely due to the fact that program officials targeted rural areas when implementing the training initiative Because the fixed-effects statistical methodology used in this study controls for unobserved heterogeneity that potentially biases measures of program impact the results of this study are viewed as a better measure of program impact than the cross-sectional approach

[6] The fixed effects estimator regresses changes in the dependent variable (in this case contraceptive use) on changes in the independent variables Both unobserved and observed factors that do not change over time are differenced" out of the regression and as a result cannot influence the coefficient estimates Using this estimator allows one to control for unobserved factors that may otherwise produce biased results Such preferences natural fecundity and community norms Because these factors are constant across time the results of the fixed effects model are unbiased

MEASURING PROGRAM FACTORS METHODOLOGICAL LIMITATIONS

One of the primary objectives of The EVALUATION Project has been to improve the methodology for measuring the impact of FP programs on contraceptive prevalence and fertility Critics of FP programs claim that the increases in contraceptive practice found in recent decades in many countries around the world can be explained by the social and economic conditions of the country, and that FP programs had little independent impact Thus, The EVALUATION Project has worked to develop and refine a methodology that addresses this issue

The preferred design for evaluating FP program impact, recommended by The EVALUATION Project (Bertrand et al , 1996), requires two rounds of data collection in a fixed sample of clusters (i e panel data) Several types of data must be collected for each round

- household and individual data (the household questionnaire of the DHS),
- community level data (from the SAM of the DHS),
- facility data (from the SAM Situation Analysis, or other facility-based survey)

Morocco is one of the few countries worldwide that fulfills these requirements having had repeat DHS surveys with the SAM in the same clusters in 1992 and 1995

For this approach program effects are measured as "dose-response" relationships between changes in program factors and changes in population-level outcomes (e g , contraceptive prevalence, fertility, etc), when the effects of changes in other factors have been controlled statistically Fixed-effects models are used to control for the effects of unobserved factors

The work in Morocco pointed to several limitations of the prototype evaluation design when applied to a mature FP program First, in a mature program, the primary programmatic changes occurring tend to involve the more qualitative aspects of service delivery (e g , staff training, counseling skills, communication with clients, etc) as opposed to changes in physical access to services or availability of methods The former are much more difficult to measure with the SAM, and more refined instruments are required for measuring program factors in well-established programs

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For example, in Morocco during the 1992-95 period, major program initiatives included the training and deployment of doctors in under-served areas, promotion of the IUD as an alternative to oral contraceptives, and improved client counseling Of these three initiatives, only the availability of IUDs was well measured in the SAM data Even where it was possible to get some measure of staff training from the SAM that were used in the impact analyses, these measures were not specific to training provided under the program during the reference period for the impact evaluation

Second changes in population-level outcome indicators over short periods of time tend to be relatively small in mature programs Because Morocco program data (e g , the SAM) were not available for 1987, researchers were only able to use the impact evaluation methodology over the 1992-95 period during which population-level indicators such as contraceptive prevalence and fertility levels changed only slightly The Morocco findings suggest that in mature programs longer observation periods are necessary in undertaking impact evaluations in order for there to be enough change in outcome indicators to be reliably measured

Third the age of the Morocco Program made it more difficult to get reliable data on the length of time that services had been available in a given community The EVALUATION Project approach to measuring FP program impact was developed and refined using data from Tanzania, where the national family program took off during the 1990s, by contrast, the public sector family planning program in Morocco has been operational at the national level for over 20 years, making it difficult to obtain measurements on indicators such as the length of time family planning in general and specific methods in particular have been offered at a given service delivery point or in a given community In countries with mature programs, such information will have to be gathered from program sources, the completeness and quality of which will vary from country to country

As such, the Morocco experience has important implications for the application of this evaluation strategy in other countries with well-established national FP programs

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Chapter VI: Further Analyses

Reliability of DHS Calendar Data

This study addressed the consistency of reporting in the contraceptive calendar in the 1992 and 1995 Morocco Demographic and Health Surveys (Strickler et al , 1997) Because a panel design was used in these surveys, the same women were interviewed in both years, providing a unique opportunity to examine the reliability of responses No other country in the world has the type of DHS panel data required for this analysis

Measures of reliability for various aspects of contraceptive-use dynamics were computed and the impact of reporting errors on contraceptive failure, discontinuation, and switching rates was estimated Results suggest that reporting of contraceptive behavior in Moroccan DHS calendar data was relatively reliable at the aggregate level with little evidence of generalized forgetting of contraceptive events An important implication of this finding is that the reliability of contraceptive histories from the calendar instrument does not seem to decline over time, at least within the three-year time frame in this analysis

Individual-level consistency particularly for those with a complex contraceptive history was lower The observed inconsistencies did not appear to affect aggregate-level estimates of contraceptive prevalence however measures of contraceptive-use dynamics (e g , failure rates) were less stable The information that seemed least reliable from one survey to another was the respondent s reason for discontinuing contraceptive use Fewer than two-thirds of the contraceptive discontinuations reported in both surveys were attributed to the same reason in both surveys One implication of this finding for FP officials is that reported reasons for discontinuation may be too unreliable to serve as the basis for policy or program changes without further validation from other sources

Morocco presented a unique opportunity to conduct this analysis However, the generalizability of the findings to other countries may be limited for two reasons First, the quality of the data may be higher in Morocco than in the typical DHS Second, the predominance of the pill in the method mix may negatively affect the accuracy of recall of contraceptive history, because the ease of starting or stopping use of the pill may introduce greater error in recall

Determinants of Maternal Health Care Use

The purpose of this study was to identify the individual, community, and service

availability factors that determine use of prenatal and delivery care services among Moroccan women Two key measures included use of prenatal care services and delivery in the presence of trained personnel

Multilevel logistic regression methods were used to model the separate outcomes of prenatal and delivery care use Data were taken from the 1992 DHS and the 1992 Service Availability Module, both conducted in Morocco Sample size was 3387 women who had given birth in the 5 years preceding the survey

The most important determinants of maternal health care use were the education, socio-economic status, and parity of the mother In rural areas, women with some schooling were almost three times more likely to use either prenatal care or delivery care than uneducated woman (odds ratio = 2 7) High parity women were less likely to seek health care during a pregnancy than women with fewer children (odds ratio = 78)

Supply-environment characteristics played a less distinct role in determining health care use In both urban and rural areas, the time to reach a facility, the number of staff available and the level of infrastructure were significant determinants In rural areas women living more than 30 minutes from the nearest health center were approximately 20 percent less likely to use prenatal care (odds ratio = 80) The study concludes that individual characteristics (such as education and SES) outweigh the supply environment in determining use of maternal health care Nonetheless improvements in access and quality of maternal health care can lead to increased use and are still recommended

Despite the relative insignificance of supply environment characteristics, some improvements can be suggested As evidenced in the DHS, family planning programs and vaccination campaigns have had great success with outreach activities, which suggests that maternal health care could benefit from these measures as well Examples might include prenatal care in the home and nurses attending home deliveries This study shows that transportation, especially emergency transportation needs improvement as many women do not have the resources to get to a health care facility Other initiatives that might improve maternal health care are further research, especially into quality of care issues and promotion of general development goals such as education for women

Household Health Care Expenditures

The purpose of this study is to estimate how much households are currently spending on health care in Morocco and to compare the level of health care spending by households with the levels spent by the government and international donors In

addition, the reliance of poor and non-poor households on the government sector is being investigated (Hotchkiss, et al , 1997c)

The study is based on data collected in the 1995 Demographic and Health Survey, which included a special supplement on health care utilization and expenditures The study presents descriptive statistics on utilization of prenatal care, obstetric care, and treatment for illnesses and injuries In addition a multi-level multivariate model of total health care expenditures is estimated, using the individual as the level of analysis

Preliminary results indicate that out-of-pocket payments for health care utilization are substantial On average urban households spend 172 dirhams (almost $20 U S) per illness episode compared to 116 DH (approximately $13) for rural households Health care spending accounted for over 7 percent of the total budget among urban households and almost 5 percent among rural households These results are consistent with those of the 1992 Morocco Living Standards Measurement Survey

The information collected on household health care expenditures offer opportunities to carry out a number of important studies These studies include measuring the impact of cost on both utilization of modern antenatal care and attended birth deliveries and on intrahousehold allocation of health care resources between males and females

Husbands play an important role in deciding family size

Chapter VII: Future Directions of Evaluation Research in Morocco

As reflected in this report, the collaboration among the Morocco MOH The EVALUATION Project/Tulane, and JSI/Morocco yielded a high volume of evaluation activity

- secondary analyses of DHS/SAM data to measure access, quality, and program impact,
- qualitative studies to identify strengths and weaknesses in service delivery,
- development of an interactive computerized system to promote greater utilization of data by program managers
- workshops and seminars at both the central and peripheral levels,
- capacity-building through training and professional linkages

This collaborative effort has resulted not only in the body of evaluation research documented in this report, but also in an increased capacity in the MOH to design implement and analyze evaluation research Does this mean that the job is done? Is there more to do?

The EVALUATION Project researchers associated with the current portfolio of studies have identified at least three areas where future effort is warranted

- **The under-utilization of maternal care services**

  Morocco is generally perceived as benefiting from a fairly well-developed health care system, yet current data clearly show that some areas of public health are in need of improvement The Family Planning Program is known as a regional success story which has resulted in almost universal knowledge of contraception and a 50% contraceptive prevalence rate Programs for childhood vaccinations too have achieved extremely high levels of coverage In stark contrast levels of maternal morbidity and mortality are almost as high in Morocco as in sub-Saharan Africa and three times higher than other countries of North Africa For reasons that have not been fully investigated, Moroccan women are reluctant to seek care for themselves during pregnancy and delivery, which can have dire consequences when complications arise More research is needed to understand the reasons for this under-utilization of both maternal and child (except vaccination) health care services in order to improve the overall health profile of Morocco

This research would best be conducted using a combination of quantitative and qualitative methods The quantitative component would cover the types of services numbers of new and returning users, changes in utilization between first and subsequent pregnancies, and other questions The qualitative component would investigate the aspects of provider/client interaction, as well as client attitudes towards MCH services that are not readily available in quantitative data Data sources include existing quantitative data (i e PAPCHILD, DHS, service statistics), as well as original qualitative research including focus groups and provider interviews In addition, cost data could be incorporated as a possible factor in under-utilization of services

- **Further development of tools to monitor quality of care**

One of the first activities under this collaboration was the quality of care study, conducted on a pilot basis in five provinces Since that time, there has been relatively little progress made among the international reproductive health community in developing a simple, low-cost practical methodology for monitoring quality of services (The Situation Analysis widely recognized as the most comprehensive approach for measuring the functioning, availability, and quality of services constitutes a major undertaking It does not, however, provide the quick and clean approach sought after by many in this field)

Given Morocco s pioneering role in family planning, its commitment to improving quality of services, and more recently its achievements in evaluation research, Morocco would be a logical country to continue work on this topic

- **Secondary analyses of PAPCHILD data**

Data collection for the PAPCHILD (Pan Arab Program of Child Development) study conducted on a massive scale with a total of over 40,000 respondents, will be ready for analysis in early 1998 However, this effort will not enjoy the same level of support at the analysis stage as was available from MACRO International for the DHS surveys The magnitude of the effort and the comprehensiveness of the questionnaire make PAPCHILD a potential gold mine for better understanding contraceptive dynamics and fertility patterns throughout Morocco

Ideally, this analysis should be undertaken both for the purpose of obtaining results and for increasing the technical level of Moroccan counterparts in data analysis and interpretation This could be achieved through a combination of data analysis workshops in country and occasional consultations with researchers in other locations

The climate for evaluation research is excellent in the Morocco Ministry of Public Health Without exception, the administrators responsible for either the MCH/FP program (in the DP) or the research/health statistics (in SEIS) have been actively involved in the five year collaboration that yielded the research results and other evaluation products outlined in this report Program managers now have service statistics readily available for use at both the central and provincial levels Study results have been used to re-orient program activities, as in the case of the studies on quality of care and the under-utilization of the IUD The richness of the Morocco data has provided the opportunity for studies that could have been done nowhere else (e g the reliability of the DHS calendar, since Morocco is the only country to have conducted a panel study with the same respondents) or in few other countries (such as measuring the impact of the FP service environment on contraceptive use) Moreover several MOH staff have received graduate level training in program evaluation for reproductive health, enhancing the sustainability of these activities in the future

Much has been done in the area of evaluation, and some might argue that it is time to move on to other concerns Yet one could make an equally if not more compelling argument that the five year collaboration has set the stage for full utilization of evaluation for the purposes of further improving the Morocco MCH/FP program Morocco is already a leader in this field, it stands to become more widely recognized as such with high-quality documentation of its successes and continuing efforts to identify means of making its program more efficient and effective in the future

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Appendix A

Participants in the MOH/EVALUATION Project Collaboration

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Dr Ilene Speizer
Dr Jennifer Strickler

Appendix B

Technical Assistance Visits by Evaluation Project/Tulane Personnel to Morocco

Person	Dates	Personnel
James Knowles	March 16 27 1992	To assist USAID/Morocco to prepare a final evaluation of the Population/Family Planning Support (PFPS) III project and a mid term evaluation of the current initiative Family Planning and Child Survival (FPCS)
Jane Bertrand	Sept 13 24 1992	To develop a methodology and instruments for assessing quality of care in MCH/FP services in selected provinces of Morocco
Jane Bertrand	Oct 12 23 1992	To pretest and modify instruments define sampling and select a local research form for data collection on the Quality of Care study
Michael Edwards	Nov 16 Dec 16 1992	To assist in the training of data collection personnel for the quality of care study and participate in the data collection and processing
Michael Edwards	Jan 13 Feb 4 1992	To assist in the completion of the quality study and development of forms from the SNIS (System National dInformation Sanitaire)
Jane Bertrand and Lisanne Brown	July 4 23 1993	To continue analysis of data for the quality of care study and identify future evaluation needs
Jane Bertrand and Lisanne Brown	Nov 4 19 1993	To present results from the quality of care study and explore dissemination options to study options for the establishment of an Evaluation Unit within the MOH
Jane Bertrand and Lisanne Brown	March 23 April 6 1994	To conduct a five day workshop to develop a preliminary study design for the evaluation of IUD training in Morocco to initiate plans for a course on program evaluation at the Institut National de l Administration (INAS) to present and discuss results of multivariate analysis of the quality of care study with Moroccan colleagues
Jane Bertrand and Lisanne Brown	July 1 29 1994	To carry out a regional evaluation workshop with INAS at the provincial level in Marrakech to further the design of a national scale evaluation of IUD training to review plans for the service availability module of the panel DNS to identify two Moroccans to serve as junior fellows to The EVALUATION Project (at Tulane) in 1994 1995 and to assist USAID in (a) reviewing the PRISM indicators for USAID/Morocco to clarify data requirements and (b) designing a retrospective evaluation of the Morocco FP program
Lisanne Brown	Sept 18 30 1994	To plan regional level training on improving data use and data quality with SEIS to further plan the evaluation of IUD training and to finalize plans for the two junior fellows and to assist USAID/Morocco in finalizing their PRISM indicators
Jane Bertrand	April 13 20 1995	To determine the priorities for future EVALUATION activities with the three collaborating groups within the MOH and to define a plan of ac ion for the implementation of the evaluation of the IUD training
Lisanne Brown	May 8 21 1995	To plan the 1995 SAM with SEIS staff including questionnaire development and time line and to conduct multivariate analyses on Morocco DHS data with SEIS staff

Lisanne Brown	June 14 23 1995	To participate in interviewer training and pretest for 1995 SAM
Erin Eckert	June 19 Aug 1 1995	To participate in the interviewer training and pretest for the 1995 SAM and to train interviewers in the use of the Global Positioning System device
Jane Bertrand	Oct 11 19 1995	To develop a plan of action for an evaluation of the IUD program to finalize arrangements for the Junior Fellow and to follow up with SEIS regarding 1992/ 1995 SAM
Jane Bertrand	March 27 April 4 1996	To finalize plans for a workshop on designing an evaluation plan for the MOH dissemination of results of the IUD study and for a workshop on qualitative research methods
Erin Eckert	June 12 July 5 1996	To carry out a workshop on qualitative research methods for evaluation and to do background research for a study on the use of maternal health care services
Michael Edwards	June 25 Aug 4 1996	To link data from the 1995 DHS Panel Study and data from the SNIS with the Ministry of Health s Mapinfo map files and to carry out a workshop on indicators for monitoring the FP/MCH program
Jane Bertrand and Abdelylah Lakssir	June 28 July 7 1996	To conduct a workshop on indicators for monitoring the FP/MCH program in Morocco
Jane Bertrand and Lisanne Brown	Oct 5 9 1996	To participate in a dissemination workshop of studies conducted under EVALUATION to date
Michael Edwards	June 4 July 17 1997	To develop and install a user interface in DOS for the FP/MCH database and assure its link within the MOH computer network
Leigh Ann Sharer	June 6 July 7 1997	To continue research in collaboration with the MOH on the effect of intentions and the supply environment in explaining contraceptive use and to transfer technical training in research methods statistical analysis data management and file manipulation to Moroccan counterparts
David Hotchkiss	June 20 30 1997	To plan and coordinate a study on household health expenditures with the MOH
Jane Bertrand Abdelylah Lakssir	June 23 July 3 1997	To participate in a workshop to review FP service statistics from 1992 96 as a means of better understanding the trends in service utilization in Morocco and to review and finalize the Handbook of Indicators

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Appendix C

Workshops Conducted for StrengtheningTechnical Capacity

	Dates	Purpose
Lisanne Brown	March 24 30 1994	Methodologies for Evaluating Family Planning Programs A five day workshop for 12 employees from three departments of the MOH on basic evaluation concepts and study design based on a similar course taught at Tulane
Abdou Abdelhak Jane Bertrand and Lisanne Brown	July 11 15 1994	Program Evaluation at the Regional Level A five day course in Marrakech attended by 20 local health officials
Jane Bertrand	Sept 3 7 1994	Program Evaluation A five day module on program evaluation was developed to be part of the regular curriculum for the National Institute of Health Administration (INAS) in Rabat Over 30 students took this module The main topics covered were the purposes of evaluation the use of a conceptual framework to guide the evaluation process the selection of indicators and sources of data relevant for each box on the conceptual framework data quality and the distinction between program monitoring versus impact assessment
Erin Eckert	June 17 28 1996	Qualitative Research Methods for Evaluation A two week workshop on qualitative research methods for evaluation held in the town of Tetouan A total of 20 participants were recruited from different provinces and from a wide range of professional levels (doctors nurses midwives etc) In an effort to develop teams at the province level capable of conducting qualitative research A secondary goal of the workshop was to conduct the groundwork for a future study of injectable contraceptive a method recently introduced in Morocco
Jane Bertrand Michael Edwards Mustapha Azelmat Abdelylah Lakssir	July 2 4 1996	The Use of Indicators to Evaluate MCH/FP Programs A workshop for Division chiefs and other personnel on the use of indicators in the MCH/FP Program The participants spent three days examining the current system of data collection discussing how those statistics might be used to generate indicators and how this information might be presented in a usable format
Michael Edwards (Fes and Tetouan) July 31 Aug 4 1996	July 23 26 1996	Regional Workshops on Indicators for Monitoring the National MCH/FP Program A total of three workshops in which the participants were guided through a series of exercises to determine the conceptual framework the indicators and the presentation of the indicators needed to monitor and evaluate programs in progress
Jane Bertrand and Lisanne Brown	Oct 5 9 1996	Dissemination Workshop in Collaborative Research Projects MOH and EVALUATION Project/Tulane A workshop in which five presentations were given by Dr Hajji (IUD study) Mr Azelmat (Effects of MCH Utilization on Contraceptive Use) Dr Abou ouakil (the quality study) Dr Jane Bertrand (continuation and failure rates DHS 1992) Dr Lisanne Brown (reliability study)
Jane Bertrand Abdelylah Lakssir Michael Edwards	June 26 27 1997	Workshop to Review MCH/FP Program statistics 1992 1996 Presenters included the team of 4 Moroccans who had participated in a professional linkage in May 1997 as well as Michael Edwards who presented the computerized interactive SNIS system

Appendix D

Professional Linkages and the Junior Fellow Program

Person	Dates	Purpose
Abdelylah Lakssir Mihamed Aljem Karima El Harim	October 1 31 1994	To assist in the development of a study protocol for evaluation of IUD training
Mohamed Zaoui	Jan 4 Feb 24 1995	To analyze the 1992 SAM and compare these data to the Carte Sanitaire data for the same year
Najia Hajji	May 1 14 1996	To analyze the IUD study data
Souad Naya	March 14 April 15 997	To jointly develop a training guide for future regional training seminars with the Tulane EVALUATION Project Staff The training manual will focus on training regional and sub regional staff in the utilization of family planning/maternal child health data and service statistics for evaluation purposes
Mustapha Azelmat	March 23 25 1997	To discuss some of the preliminary findings from the secondary analysis the deliverables under the Q contract extension and the development of a regional training guide
Mohamed Zaoui	May 16 June 15 1997	To work with the Tulane EVALUATION Project Staff to finalize the report of the 1995 Service Availability Module Survey
Fatima M Houjab Nafia Lantry Ranal Safyani Touria Jaabari	May 16 June 2 1997	To work with EVALUATION/ Tulane staff to complete an analysis of the service statistics for the last 3 years according to the conceptual framework designed in the July 1996 workshop The primary training objective is to enhance the skills of the participants to track the evolution of the program results from service statistics
Jalali Hazim Driss Zineeddine	Sept 6 20 1997	To work with Tulane University EVALUATION Project staff to conduct an economic analysis of the Morocco National Household Expenditure Data
Morocco Junior Fellow Abdelyan Lakssir	Feb 24 Oct 15 1996	To work on 1 IUD Study including study design data processing and data analysis 2) Development of the conceptual framework for tracking program progress using service statistics including facilitating a seminar in Morocco on the topic 3) Design of the handbook for using service statistics for Maternal and Child Health and Family Planning in the Morocco program

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Appendix E

Publications and Presentations

Person	Meeting/Publication	Title
Jane Bertrand	NCIH Meetings June 1994	Measuring Quality of Care the Morocco Experience
Lisanne Brown Mostafa Tyane Jane Bertrand Don Lauro Mohamed Abou ouakil Lisa deMaria	Studies in Family Planning 26 3 154 168 1995	Quality of Care in Family Planning Services in Morocco
Lisanne Brown Janet Rice Jane Bertrand Mostafa Tyane	PAA Meetings April 1995	Measuring the Effect of the Quality of Contraceptive Use in Morocco s Family Planning Programs
Robert Magnani David Hotchkiss Thomas Mroz Jeffrey Rous Erin Eckert Kathleen McDavid	PAA Meetings April 1995	Does Utilization of MCH Services Influence Subsequent Contraceptive Use? Evidence from Morocco
Jennifer Strickler H Gil McCann	PAA Meetings April 1995	Determinants of Contraceptive Failure and Discontinuation in Morocco
Jennifer Strickler Robert Magnani Gil McCann Lisanne Brown Janet Rice	Studies in Family Planning 28 1 44 53 1997	The Reliability of Reporting Contraceptive Behavior in DHS Calendar Data Evidence from Morocco

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